

REVIEWS

Klipsch RP Series 5.1
Samsung Q70R Atmos soundbar
BenQ W5700 4K projector
Elipson Infinite in-wall speakers

BEST-IN-CLASS OLED

LG's 65 E9 sets the standard for 4K HDR home cinema

Format war!

HDR10+ or Dolby Vision – which will win the 4K Blu-ray battle?

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IF YOU BUILD IT...

The LEGO Movie 2 is ready to block on Ultra HD Blu-ray, p95

Revealed:
The new 3D Blu-rays you must own

FILM & TV

■ BLACK HAWK DOWN 4K
■ HELLBOY 2 4K ■ COLD PURSUIT
■ FIGHTING WITH MY FAMILY

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→ LOFT CINEMA CONVERSION → BT SPORT 4K HDR → COMPETITIONS → MORE!

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EDITORIAL TEAM

Editor Mark Craven
mark.craven@homecinemachoice.com
Deputy Editor Anton van Beek
anton.vanbeek@homecinemachoice.com
Art Editor John Rook

CONTRIBUTORS

Steve May, John Archer, Tekura Maeva,
Richard Stevenson, Rik Henderson, Steve Withers,
Ed Selley, David Vivian, Jon Thompson, Martin Dew
Photography Mike Prior

ADVERTISING

Advertising Sales Executive

Richard Morris
Mob: 07834 346461
E-mail: richard.morris@homecinemachoice.com

MARKETING AND SUBSCRIPTIONS

UK: New, Renewals and Enquiries
Tel: 0344 243 9023
E-mail: help@hcc.secureorder.co.uk
USA & CANADA:
Toll Free: 001 866 647 9191
REST OF WORLD: New, Renewals and Enquiries
Tel: +44 (0) 1604 828 748
BACK ISSUES
www.mags-uk.com

MANAGEMENT TEAM

Group Editor Paul Miller, paul.miller@avtechmedia.co.uk
Group Sales Manager Sonia Smart
Subscriptions Manager Kate Hall
Chief Executive Owen Davies

Published by AVTech Media Ltd

Suite 25, Eden House, Enterprise Way
Edenbridge, Kent, TN8 6HF
Tel: 0844 412 2262
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NEXT ISSUE ON SALE: July 11, 2019



Avengers: Infinity War – an epic 3D Blu-ray, p28

Welcome

While downloading *Captain America: The Winter Soldier* to a Sky Q box recently (I'm in the midst of a Marvel binge) I was surprised to find the option to watch it in 3D. With everyone insisting the format is dead due to lack of support from 4K HDR TVs, I'd forgotten Sky hasn't yet sealed the lid on the coffin.



Nor has the movie industry or Blu-ray labels. **3D may not be as popular with cinemagoers as it was during the Avatar era** (ten years ago!), but it remains a money-spinner at the multiplex. And for home cinema fans retaining a 3D-capable TV or projector (where the technology is still included in new models), there's a steady drip of discs serving up stereoscopic thrills (see p28 for our roundup).

This month there's also been news that 20th Century Fox is going to buck the trend by bundling a 3D Blu-ray of *Alita: Battle Angel* with the film's 4K platter. Is the format due for a rebirth?

Mark Craven
Editor



MENU



CONTRIBUTORS



John Archer:
The experienced TV tester cut his teeth as an early HCC staffer



Jon Thompson:
Film producer and post-production expert delves into Hollywood and AV



Steve May:
HCC's former Ed. is one of the UK's most respected AV journo's



Martin Pipe:
Technical expert Martin is renown throughout the industry



Richard Stevenson:
Former Editor of the UK CE trade journal ERT



Ed Selley:
Audiophile Ed mixes his home cinema passion with a love of vinyl



Steve Withers:
Movie fan, display calibrator and object-based audio obsessive

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We round up 10 murderous movies that deserve a place in your disc collection

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BULLETIN

→ **NEWS HIGHLIGHTS** BOWERS & WILKINS Formation audio range unveiled
SOUND UNITED Denon parent snaps up Onkyo/Pioneer brands **ORBITSOUND** Air D1 speaker targets high-end market **AT THE PLEX** This month's cinema releases **NEWS X10** The hottest news stories in bite-sized chunks **US** Familiar faces ready to scare on 4K BD... **& MORE!**

Delta force

Classé Delta Mono → classeaudio.com



Classé's smart-looking Delta Mono is a mono power amplifier designed to give 300W of premium, performance-enhancing Class AB grunt, while also able to run in Class A mode up to 35W. Available later this year following full production at Japan's Shirakawa Audio Works factory, the amp features an ICTunnel cooling system (with front-facing air intake), VU meter and system-integrating connections include 12V trigger and RS-232. Price is £11,000. We'll take two...

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Centring in on sound

Bowers & Wilkins Formation Bar → www.bowerswilkins.com



Part of Bowers & Wilkins' new Formation Suite (see p10), the Formation Bar soundbar (top, £1,000) employs nine custom drive units to create a wide, 'all-inclusive' soundstage – incorporating a dedicated centre channel for realistic dialogue delivery. Use it with the £900 Formation Bass (bottom), B&W's dual 6.5in cylindrical subwoofer. This claims a 20Hz low-frequency extension and adopts Dynamic EQ DSP for an accurate, controlled performance.

AE adds LFE to 300 Series



Acoustic Energy has announced a subwoofer model to complete its 300 Series. The AE308 uses a 500W (RMS) power plant to drive its down-firing 12in pulp-fibre driver, in a sealed cabinet available in gloss white (£900), gloss black (£900) and real wood walnut (£950) finishes, to match the standmount, floorstander and centre channel speakers in the range. The sub's DSP engine handles Movie, Music and Impact presets; frequency response is rated down to 26Hz. www.acoustic-energy.co.uk

Slicker Sonos with Flexson



UK-based Sonos accessories specialist Flexson is expanding its suite of add-ons with wall-mounts designed to house the speaker corp's Playbar and Beam soundbars. Both feature steel chassis and aim to deliver a discreet, near-invisible install – the £30 Playbar mount measures just 16mm deep, resulting in a flush-to-wall fit, while the Beam mount (£50, pictured) includes space for cable routing and comes in black or white guise to match your Sonos 'bar. www.flexson.com

Playlist...

Team HCC spins up its disc picks of the month

Spider-Man: Into the Spider-Verse (Ultra HD BD)

This amazing superhero 'toon continues to dazzle with the sensational 4K imagery and Atmos audio served up by this must-own UHD platter.



Annihilation (Ultra HD Blu-ray)



This long-awaited Ultra HD BD shows off Alex Garland's provocative sci-fi thriller in all its shimmering 4K HDR glory.

What We Do in the Shadows: Season One (BBC2 HD)



Dead-funny smallscreen vampire comedy spin-off is bigger in scope and laughs than the 2014 film.

Aliens: Special Edition (All-region BD)



The only sensible option once you've tired of watching *Alien* in 4K HDR.

Everybody Wants Some!! (Region B BD)



Dazed and Confused's return to Blu-ray prompted us to dig out Linklater's thematic sequel.

Updating Disney classics

Oscar-winning songwriter says it's difficult not to offend some people

With Guy Ritchie's *Aladdin* rubbing up a whole new world of cash, Tim Burton's *Dumbo* flying high and Jon Favreau's photorealistic *The Lion King* likely to be a roaring success, this year looks to be a box office bonanza for Team Disney Redux.

But despite the House of Mouse striking gold with live-action and CG retakes, some high-profile animated musicals may never get the live-action treatment. At least that's the view of Oscar-winning songwriter and composer Alan Menken.

Menken is the musical genius behind some of Disney's most enduring properties, having written the scores for *The Little Mermaid*, *Beauty and the Beast*, *Aladdin*, *Pocahontas*, *The Hunchback of Notre Dame*, *Hercules* and *Tangled*.

Speaking at an intimate afternoon tea and (ivory) tinkle, to promote Ritchie's 2019 remake of *Aladdin*, he suggests that current sensibilities could prevent some classics making a comeback.

'I don't know if we'll ever be able to do *Pocahontas*,' he confides. 'I think that story is going to be difficult, with modern sensibilities. It may be difficult not to offend some people.'



Alan Menken: 'When you're dealing with the music of the heart, the emotions, I think you're on pretty safe ground'

Menken adds that while a live-action remake of *The Hunchback of Notre Dame* is currently in development, bringing that movie back to the screen 'will definitely be complicated, because there's dark aspects which we're going to have to navigate.'

Disney is increasingly sensitive to PC climate change. Despite pledging to make its complete animated back-catalogue available on upcoming streaming service Disney+, the company concedes that controversial Oscar-winner *Song of the South* (1946) will not see the streaming light of day.

Hot topics

Menken also reveals the new *Aladdin* movie required lyric changes. 'We used to have (in *Arabian Nights*) the line 'The heat is intense, it's barbaric. But hey, it's home.' The word 'barbaric' went fast. It's a filter you have to have. Today values can go upside down in a blink.'

There's always going to be people who don't like something, he quips. 'The truth is that there are ways to be funny, without necessarily having to play with stereotypes. You can do that. But when you're dealing with the music of the heart, the emotions, I think you're on pretty safe ground.'

Although not heading for the bigscreen, Menken confirms a stage production of the 1997 animated comedy *Hercules* will bow this summer in New York's Central Park. 'I'd also like to see *Tangled* come to the stage.'

He also says he didn't know what to expect from Guy Ritchie, but claims the action-orientated director's take on *Aladdin* is like 'a breath of fresh air. It was a real journey. I love this movie.'

Mena Massoud takes on the role of Aladdin



At the 'plex...

Heading out to see a flick?
Catch these this month

Men in Black: International



June 14: *Thor: Ragnarok* stars Chris Hemsworth and Tessa Thompson are reunited in this sci-fi-comedy sequel which sees their MIB agents travelling the globe to combat an alien species called The Hive.

Toy Story 4



June 21: 'It is so emotional; it's so funny; it's so big,' says Tom Hanks of this fourth (and final?) film in Pixar's best-loved franchise. Expect plenty of tears before the final credits...

Annabelle Comes Home

June 28: Hot on the heels of *The Curse of La Llorona*, the *Conjuring* Universe's devil doll returns to cinemas for a third solo outing. This time Annabelle has her sights set on demonologists Ed and Lorraine Warren's 10-year-old daughter Judy (Mckenna Grace).

Lining up in Formation

UK speaker manufacturer introduces new wireless audio portfolio

Bowers & Wilkins has launched a new five-model line of wireless audio products, known as Formation Suite, offering what the company says is 'whole-home sound without compromise.'

The five products utilise a proprietary mesh network combined with a speaker synchronization function (developed in conjunction with B&W parent company EVA) that will transfer audio between speakers in under a claimed one microsecond, and with 24-bit/96kHz resolution. These features allow the Formation Suite to guarantee the 'highest form of sound,' according to B&W.

HCC attended the launch to experience the new Formation family, which consists of the Formation Duo powered bookshelf speakers (£3,500 per pair); three-channel Formation Bar soundbar (£1,000, see p8); Formation Bass subwoofer (£900); a table-top stereo speaker, replacing the former Zeppelin model, dubbed Formation Wedge (£900); and Formation Audio (£600), a connector hub for wireless streaming of passive sources such as a turntable or CD player.

Further music streaming features incorporated into the entire ecosystem include Apple AirPlay 2, Spotify Connect, Roon Ready, Bluetooth v4.1 and aptX HD compatibility. Network connectivity is supported by both Ethernet and Wi-Fi, and USB ports are provided for updates and servicing.

Audiophile proposition

The Formation Suite is clearly aimed at buyers who prefer a refined – although possibly controversial – design aesthetic. There's also the promise of a high-end audio performance, with the range positioned above rival systems from the likes of Sonos, HEOS and Yamaha. The Formation Duo,



B&W's Formation Suite (left) currently features five models



in particular, is a genuine audiophile proposition, and borrows the top-mounted

tweeter and Continuum cone mid/bass driver design of the brand's hi-fi loudspeakers.

Our initial auditions of the B&W lineup certainly confirm that each individual model is primed to compete on a best-in-class basis, capable not only of exhibiting both a layered soundstage (particularly in the case of Formation Duo), but also an extraordinary room-filling scale, which in turn belies the respective speaker's form factor.

'The Formation Suite is the most technologically innovative line of wireless products our development team has ever created,' says Greg Lee, CEO of Bowers & Wilkins.

The company also went to some lengths during the Formation launch to stress its commitment to the evolution of this new ecosystem, and revealed that we should expect to see more products arriving in the future.

Vizio targets UK with soundbar

US brand launches in Blighty with affordable 2.1-channel SB362An

Vizio is probably better known to UK tech-watchers as the US TV manufacturer whose displays have yet to hit our retailers. But it has finally spread its wings to this side of the Atlantic, albeit beginning with a lower-range soundbar.

The SB362An is a 2.1-channel model with a £150 price tag. Within its angular chassis are two 3in woofers, plus a pair of 2.25in full-range drivers in a stereo configuration. Allied to this is DTS Virtual:X processing, which aims to deliver a soundstage with both vertical expansion and surround sound immersion, and DTS TruVolume.

The 'bar ships with a remote control and offers optical digital audio, USB and 3.5mm analogue audio connections, plus Bluetooth. Brackets and a mounting template are supplied for placement on a wall.

Size-wise, the SB362An's 90cm approx width makes it a suitable aesthetic partner for TVs around 50in.

www.vizioaudio.uk

Rather than use an external subwoofer, Vizio's 'bar packs dual 3in bass drivers





NEW

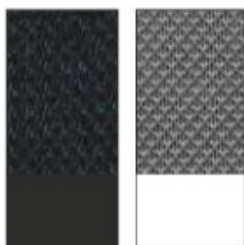
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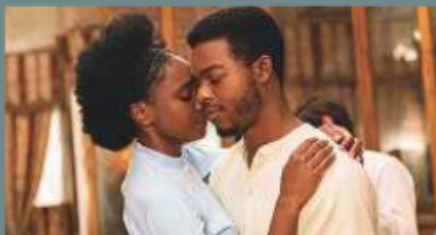
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Discs spinning your way in the coming month...

June 17

Early Women Filmmakers 1911-1940 (BD)
The Heiress (BD)
The Holy Mountain (BD)
If Beale Street Could Talk (DVD/BD)
The Running Man [1963] (BD)
The Sender (BD)
Tokyo Gore Police (BD)
Under Fire (BD)

June 24

American Horror Project: Volume Two [Dream No Evil/Dark August/The Child] (BD)
Arctic (DVD/BD)
Black Joy (BD)
Cold Pursuit (DVD/BD/4K)
Happy Death Day 2U (DVD/BD)
The Kid Who Would be King (DVD/BD)
Kind Hearts & Coronets: 70th Anniversary Edition (DVD/BD)
Loro (DVD/BD)
The Missionary (BD)
On the Basis of Sex (DVD)
Scum: Limited 40th Anniversary Edition (BD)

July 01

Avengement (DVD/BD)
Fighting with My Family (DVD/BD)
FM (BD)
The Kindergarten Teacher (DVD/BD)
Serenity [2019] (DVD)

July 08

The Aftermath (DVD/BD)
American Gods: Season Two (DVD/BD)
Doctor Who: The Collection – Series 10 (BD)
Fisherman's Friends (DVD/BD)
Puppet Master: The Littlest Reich (DVD)
Swing Time (BD)

AV's big brand snatch

US corp nabs Onkyo and Pioneer, parts company with Ken Ishiwata

The Borg don't have anything on hi-fi mega-corp Sound United. *Star Trek's* indefatigable nemesis may be past masters at assimilation ('resistance is futile', as we all know), but the American audio specialist continues to vacuum up sonic rivals with equal determination.

The latest addition to its burgeoning roster is Onkyo's consumer audio division, which includes the Onkyo, Pioneer, Pioneer Elite and Integra hi-fi/AV brands. The new recruits join Denon, Marantz, Classé, Definitive Technology, Polk Audio and Boston Acoustics, creating arguably the largest stable of high-street hi-fi brands in the world.

Sound United CEO Kevin Duffy says he's thrilled to add Onkyo and Pioneer to the portfolio, claiming the enlarged group 'will bring unrivalled innovation and sound performance' to consumers.

'Upon completion of the transaction, we will work tirelessly with the consumer audio division of Onkyo Corporation to ensure a seamless transition into the Sound United family so that all employees, customers and channel partners benefit from the enhanced breadth and depth of the organisation.'

Cost savings

Sound United insists the investment will better enable it to innovate across product categories and feature sets. It also allows for cost savings by standardising components and designs.

'This expanded scope will offer manufacturing efficiencies, expedited development cycles and a combined business better positioned to invest in the future of the premium audio category,' said a company statement.

Enthusiasts may worry, however, that the move will further homogenise the AV sector (see p73 for more on this...). Onkyo's consumer audio division produces AV receivers, stereo amplifiers, mini systems, smart speakers, turntables, soundbars, home cinema systems and Blu-ray players.

Onkyo Corporation is retaining the rights to the Pioneer and Onkyo brands for the purposes of its nascent Digital Life and Embedded Audio businesses, which cover user experiences outside



Bart Muller: 'Ken was working with a great team of engineers, sharing his knowledge to safeguard the Marantz philosophy'

the home, as well as OEM and licensing strategies for in-car and white goods.

The acquisition – which is expected to be completed following regulator/shareholder approval by the end of June – doesn't impact current distribution agreements held by Onkyo USA or Aqipa in Europe.

Farewell Ken

Within hours of the Onkyo/Pioneer acquisition announcement, Sound United also revealed the departure of Marantz brand ambassador Ken Ishiwata. Surely not coincidental, the departure of Ishiwata brings to a close a 41-year relationship with the Marantz brand.

As Senior Product Manager he was largely responsible for defining the musical sound of the company, keeping it very much distinct from stablemate Denon.

And it was Ishiwata who drove the Marantz Special Edition strategy, which showcased products that had been honed specifically to eke out greater performance. Products personally tuned by Ishiwata, and identifiable by his initials, include the CD-63 MkII KI CD player and PM-66 KI integrated amp, and the recent KI Ruby series. The latter, limited to 1,000 sets, comprised the SA-KI Ruby SACD player/DAC and PM-KI Ruby amp; each set sold for £7,000.

'We would like to thank Ken for his exemplary track record and especially for growing the Marantz brand in Europe,' commented Bart Muller, SVP European Commercial Operations. 'Ken was working with a great team of like-minded engineers, sharing his knowledge to safeguard the Marantz sound philosophy. Marantz owners and fans can rely on the unmistakable Marantz sound in the future.'

Ishiwata joined Marantz in 1978, as Technical Coordinator, having previously been a fashion photographer. He held the position of Brand Ambassador from 1996.

Sound United is acquiring Onkyo's consumer audio business, but losing audio guru Ken Ishiwata



This month's top 10 news stories in handy, bite-sized chunks...



1 Samsung adds Apple TV app
Samsung has become the first TV manufacturer to launch the new Apple TV app. Available on all 2019 Samsung Smart TVs and selected 2018 models via a recent firmware update, the new app allows users to access their Apple iTunes movie and TV series purchases and browse more than 100,000 titles available to buy or rent. Users of the app will also be able to access the Apple TV+ SVOD service when it launches later this year. The firmware update also added Apple AirPlay 2 support.

2 Double Denon
Denon has launched two new 7.2-channel X-Series AV receivers. The £600 AVR-X2600H (150W per channel) and £450 AVR-X1600H (145W per channel) are available now and count Dolby Atmos Height Virtualisation Technology, eARC compatibility and Apple AirPlay 2 among their feature sets.

3 'Here's Johnny!'
A new 4K restoration of Stanley Kubrick's *The Shining* is coming to Ultra HD Blu-ray on October 1, courtesy of Warner Bros. Overseen by Steven Spielberg and Kubrick's former personal assistant Leon Vitali, the restoration is based on Kubrick's original 146-minute edit that premiered in the US in May 1980.

4 Marvel's Marvel
Disney is bringing the superhero smash *Captain Marvel* to DVD, BD, 3D Blu-ray and 4K Ultra HD in the UK on July 15. Extras will include a commentary from directing duo Anna Boden and Ryan Fleck, plus six deleted scenes, a gag reel and six featurettes. Two additional featurettes will be exclusive to the film's July 1 digital release.

5 iPlayer seeks approval
The BBC has submitted plans to UK content regulator Ofcom for upgrading iPlayer. Among the changes the Beeb is proposing are making programmes available 'for at least 12 months' after they are first shown; making more boxsets available for selected returning titles; and showcasing more content from the BBC archive.

6 Sounding better
Netflix has boosted the audio quality of its streaming content. The SVOD platform claims the bitrate for Dolby Digital 5.1 content has increased from 192kbps to 640kbps, while Dolby Atmos rises from 448kbps to 768kbps. The decision was made after the creators of *Stranger Things* complained about the difference between their studio mixes and what was actually streamed.

7 Silence is golden
Boutique Blu-ray label Eureka has revealed that legendary German horror classic *Der Golem* will be lumbering onto Blu-ray later this year as part of its Masters of Cinema lineup. The new 4K restoration by L'Imagine Ritrovata is the first to be based on the original camera negative, which until recently was believed lost.

8 Indie VOD
US indie IFC Films is the latest distributor to launch its own SVOD platform. IFC Films Unlimited initially debuted in the US on Amazon Prime Video Channels, priced \$5.99 per month. IFC Films says it has been spent a couple of years 'quietly unwinding' its licensing deals with an eye to launching the service.

9 LG embraces Alexa
LG Electronics has begun rolling out Amazon Alexa voice control support on its UK 2019 smart TVs featuring ThinQ AI. The company has also promised the addition of AirPlay 2 and HomeKit support for its 2019 OLED and selected NanoCell TVs with a 'mid-year' firmware update.

10 4K Apocalypse soon
Francis Ford Coppola's *Apocalypse Now* will make its bow on Ultra HD Blu-ray on August 26. Restored from the original camera negative, Studiocanal's 40th Anniversary Edition includes 4K presentations of the 153-minute Theatrical Version, 202-minute Redux Extended Cut and new 183-minute Final Cut, with Dolby Vision HDR grading and Dolby Atmos audio. It also comes bundled with two Blu-rays full of bonus features, including the *Hearts of Darkness* doc and a look back at the film's history on home video.



Premiere...

What's happening in the world of TV and films...

Hang on!



Ana Lily Amirpour, director of the brilliant 2014 Iranian vampire film *A Girl Walks Home Alone at Night*, has been signed up to helm a new take on the 1993 Stallone film *Cliffhanger* – albeit with a female lead this time around. Meanwhile, Jason Momoa is reportedly in talks for a 'key cameo'.

Taking a break

Star Wars will be going on a brief bigscreen hiatus after this year's *The Rise of Skywalker*. Disney has locked in new *Star Wars* movies for Christmas 2022, 2024 and 2026, alternating with the four *Avatar* sequels, which will be released in 2021, 2023, 2025 and 2027.

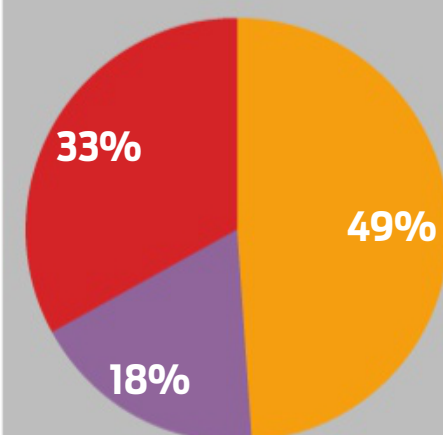
Goyer puts a pin in it

Batman Begins and *Man of Steel* scribe David S. Goyer is writing and producing a reboot of Clive Barker's *Hellraiser* for Spyglass Media Group. 'Having the chance to re-imagine Pinhead and the Cenobites for a new audience is a nightmare-come-true,' stated Goyer.

We asked...

Do you watch sporting events on your home cinema system?

- Yes. All the time
- Occasionally
- No way. Sports? Schmorts...



Results from www.homecinemachoice.com
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Look who's stalking

Us → Universal Pictures → DVD/Blu-ray/
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Having spooked audiences with his 2017 directorial debut *Get Out*, writer-director Jordan Peele serves up another slice of bigscreen horror with *Us*. The story of a holidaying family haunted by uncanny doppelgängers, *Us* makes its disc debut on July 29, with extras including five *Making of...* featurettes, three scene deconstructions, six deleted scenes and an extended dance sequence. In addition to the same Dolby Atmos track included on the 1080p Blu-ray, the 4K platter features Dolby Vision grading as well as HDR10.



AIRPULSE

A300

A PHIL JONES LEGACY SPEAKER COMPANY



The flagship Airpulse A300 active loudspeaker sits at the top end of bookshelf speaker design. Designed by the legendary Phil Jones, the A300 combines reference monitor sound quality with timeless restyling while packing all modern day connections for today's discerning music fans.



HORN LOADED RIBBON TWITTER

The A300 horn loaded tweeter inherits the mechanism of the tweeter from our flagship model, the 70001i near-field monitor, with an added phase correction device which greatly improves frequency response and increases dispersion. A 65mm in length and 0.12mm thick aluminium ribbon is placed between the two large neodymium magnets, enabling electric current to feed through the ribbon so that it functions like a coil in a conventional loudspeaker. Simultaneously the ribbon acts as a diaphragm as it moves air. The combination of these two functions gives the ribbon tweeter high efficiency and great transient response without delay.



6.5" ALUMINIUM LOW DISTORTION MID-WOOFER

The 6.5" mid-woofer is an aluminium cone, a large voice coil that is signature Phil Jones. It uses a neodymium motor that provides high magnetic flux to cover the entire voice coil within the loudspeaker. This is rarely done in speaker construction due to high costs and a majority of loudspeakers use a voice-coil, mostly overhung outside the magnetic field. By using a much larger magnetic field in the A300 woofer, we considerably reduce harmonic and inter-modulation distortion, giving the speaker a more musical and natural sound.

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Face to Face

Topics of discussion on the HCC Facebook page

Do you watch extra features on Blu-rays?



Yes – main reason I buy.
Steven Emery

Yes, but I'd love them on the 4K disc and not only on the Blu-ray.
Stephen Kelly

Gag reel and extra scenes. Sometimes the *Making of...* feature. But rarely the commentary tracks.
Chris Sayles

No, never.
Paul Alsop

Hardly. I wouldn't mind if they used that space for better sound and vision.
Stephen George

What you're watching on your home cinema...



The latest Blu-ray restoration of *They Live*. Have revisited *The Fog* and *Escape from New York*, so this is up next! Can't wait.
Chris Bulman

Bumblebee 4K, *Cliffhanger* 4K and *Black Hawk Down* 4K.
Kerry Young

Batman Begins 4K. There will be others, but the listings are yet to be finalised...
Jon Deal

Predator Trilogy 4K UHD boxset. If it bleeds, we can kill it.
Sean Lewer

Just picked up *Hotel Artemis*, *Green Room*, *Jane Got a Gun* and *Isle of Dogs*, but they'll have to take a backseat to the new German special edition of Richard Stanley's immense *Dust Devil*, which arrived in today's post.
Hugh Kenneth David

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Back of the 'net

Trailers, technology and more to check out on the web



Stan's the man

To celebrate the addition of the word 'Kubrickian' to the Oxford English Dictionary, and a recent season of Stanley Kubrick movies at its Southbank venue, the BFI presents this five-minute video exploration of Kubrick's impact on the look of modern cinema – and even socks.

youtu.be/D3w1so54MdY



Coulrophobics beware

Anyone with a fear of clowns is advised to steer clear of multiplexes this September as *It: Chapter Two* brings back Stephen King's terrifying creation Pennywise and the now grown-up Losers' Club (including Jessica Chastain and James McAvoy) who are out to stop him/it.

youtu.be/zqUopiAYdRg



Who watches the...

Alan Moore's *Watchmen* graphic novel, previously adapted for cinema by Zack Snyder, now gets a TV series makeover due to air on HBO (and presumably Sky Atlantic) this Autumn. This ominous teaser trailer gives nothing away, although show-runner Damon 'Lost' Lindelof has said it will tell a 'new' story...

youtu.be/zymgtV99Rko



Jolie good show?

A belated sequel to Disney's 2014 live-action fantasy flick *Maleficent* arrives in cinemas this October, with Angelina Jolie reprising the role of the titular wicked witch, alongside newcomers Michelle Pfeiffer and Chiwetel Ejiofor. Check out the CGI-heavy teaser trailer below.

youtu.be/5MwW1NAsnR8



Making dough

While Hollywood actors appearing in UK TV commercials is not unusual, this effort by bakery Warburtons raises the bar, luring Robert De Niro to Bolton for a pastiche of both *Goodfellas* and *Casino*. We'd rather watch this on a loop than *Dirty Grandpa*.

youtu.be/AdMpVZ42RLk



Darth mauling

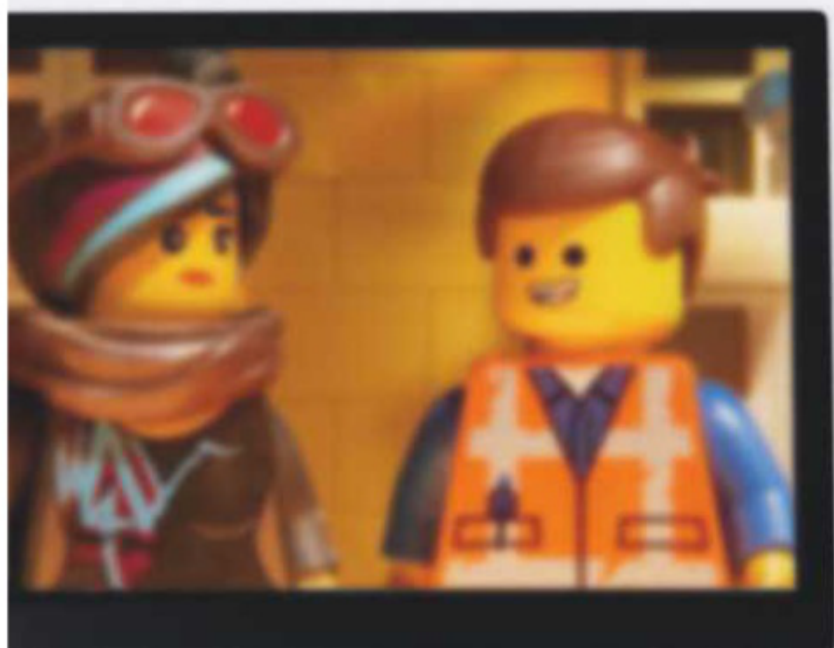
Scene 38 of *Star Wars: A New Hope* is famous for being the final confrontation between Darth Vader and Obi-Wan Kenobi, but also regarded by franchise fans as a bit of a damp squib in terms of lightsaber action. Cue this fan-made reimagining that chucks in new VFX, Force powers and zippy editing. Fun.

youtu.be/to2SMng4u1k

Outer space sonics

Orbitsound Air D1 → www.orbitsound.com

Orbitsound is known for its mid-range soundbars and soundbases, but wants to change that with the £12,000 Air D1. Here, the UK brand again utilises Airsound DSP/driver tech to aim for a 'full and compelling' stereo presentation from a single enclosure, in conjunction with intelligent, distortion-cancelling amplification. The towering speaker features Wi-Fi/Bluetooth plus optical, aux and Ethernet connectivity, and comes in bamboo or black finishes.



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The High-End show: Munich 2019

From soundbars and affordable floorstanders to 'steerable' sound and cast iron subwoofers, this audio expo had something for everyone. **Ed Selley** was there to listen in

The fifteenth annual Munich High End show was the expected mix of pricey concept reveals, immersive multichannel demos and the whole gamut of two-channel hardware from cutting-edge digital systems through to turntables and – for people who find vinyl too cheap and too easy – reel-to-reels. Prowling its vast halls and suites is a dizzying experience, and these were the items/brands that caught our eye.

PMC

Having given us an impressive Atmos demonstration at the Bristol Hi-Fi show earlier this year [see *HCC* #297], PMC decided to turn it up to eleven for Munich. Using a metal frame, it had created a system employing 16 of its Wafer speakers (ten surround, six height), fronted by three flagship Fact Fenestria floorstanders and augmented by two of the company's vast three-way QB1 XBDs as subwoofers to 'fill in' and even out the overall response. Powering the whole ensemble was a mountain of Bryston amplification.

As with the Bristol demo, the aim of this enormous rig wasn't to showcase action movies at the sort of level that makes your vision wobble (although we'd like to have a go) but to demonstrate PMC's involvement in Dolby Atmos music mastering, helped by having a selection of studio gurus/industry stars on hand



PMC arrived with an Atmos installation (right) while DALI unveiled the Katch One soundbar



to explain the process. The showstopper was the Atmos remix of Miles Davis' jazz opus *Kind of Blue*, which PMC says was a one-off demo as there are no concrete plans to release it. 'We await the final decision of the record company.'

DALI

The new Katch One soundbar is, as the name and its general shape suggests, closely related to DALI's long-running and impressive Katch wireless speaker. Designed to be installed vertically, either mounted on feet or on a stylish leather-strap hanging mount beneath your wall-hung TV, it employs ten drivers and a quartet of 50W amplifiers to deliver stereo sonics – with a soundstage widening mode (dubbed 'Wide') to bolster immersion. An HDMI ARC connection is joined by dual optical digital audio support, plus a pre-out to connect to an external subwoofer. DALI isn't offering the soundbar in the same number of finishes as the Katch speaker, but we're certain most will be happy with black or white options. It'll cost £650 when it goes on sale later this Summer.

LEXICON

There are times when you really wish a product on 'static demonstration' was being given the chance to



strut its stuff. Lexicon's SL-1 is a case in point, as this unique take on a wireless hi-res speaker pairing has the potential to be quite the performer. Mixing 66 drivers (across bass, mid and treble units) and 46 channels of amplification with 'Soundsteer' processing, it claims to create a beam of stereo sound that can be sent to anywhere in a room, with the size and position controlled via an app – an LED system shows where the beam is going at any one time. If you don't fancy having all the drivers on display (and the speakers do look a little... insect-like), there are attachable grilles. The price, if you have to ask, is €43,000 a pair.

SVS

SVS was based in the spacious halls that occupy the lower level of the MOC exhibition centre. Thankfully,



Munich High-End showgoers could even audition the Accuton sound system in a Bugatti Chiron

the US audio brand brought a soundproof booth along to allow it to demonstrate its Prime Pinnacle speaker in a multichannel system (also with the PB-3000 subwoofer).

The Pinnacle is the new flagship of the Prime range, and is designed to take on the attributes of SVS's step-up Ultra Tower speaker in a smaller, less dominating and less expensive enclosure. 1in tweeter and 5.25in midrange units are joined by three 6.5in bass drivers, all isolated internally and ported to better manage the low-end response – show demonstrations suggest a fulsome, largescale performance. Pricing is £1,800 a pair (Black Ash) or £2,000 (Gloss Black), and they're on sale now.

TECHNICS

The Technics brand may have begun its rebirth in 2016 with the obligatory turntable, but it's since moved into other areas, and this year again saw expansion of its Ottava SC series in the form of the SC-C30 wireless speaker. Due to go on sale in the Autumn, price TBC, this hi-res compatible desktop model tucks midbass, tweeter and subwoofer drivers into an arc-shaped aluminium-topped cabinet with OLED display, and physical connections including a digital optical audio input. Technics' Space Tune room calibration system is joined by preset listening modes through the Audio Center app.

FOCAL

The French company is celebrating its 40th birthday in 2019, so used Munich High-End to flaunt a '40th Collection' including special edition versions of its Spectral and Scala passive speakers (the latter limited to just four pairs); Solo6 Be active monitor; and the F40th in-car kit, which sees the company's beryllium tweeter/Flax drivers jump



SVS's Prime Pinnacle floorstanders were given a multichannel workout

Focal's 40th Collection includes flagship floorstanders and in-car audio



ship from its Kanta speakers to your Robin Reliant, in conjunction with amp and processor units.

JERN SPEAKERS

Munich High-End wouldn't be Munich High-End without esoteric materials being roped into the construction of products. Elsewhere at the show, you could check out a turntable made entirely from bamboo, and at least one speaker featuring a cabinet hewn from marble. Yet Danish company Jern Speakers takes a different approach, eschewing trendy cabinet solutions and opting for cast iron instead. The result is a selection of compact speakers that are, as you might expect, extremely inert, and new this year is the Sub 500 woofer [pictured below], again made of cast iron and designed to underpin the brand's speakers via its dual 8in bass drivers. This was just a prototype and there were no details on price and availability, but it certainly looked fun.

MISSION

With LX and QX speaker ranges already in the market, Mission is moving up with its ZX Series. Here, a new ring dome tweeter is partnered with aluminium 'DiaDrive' midbass/woofer units across an eight-strong range that includes two standmounts (ZX-1, ZX-2), three floorstanders



Arriving later this Summer is Mission's ZX Series, which includes tower, bookshelf, centre and surround models

French brand Cabasse flaunted its premium The Pearl wireless speaker



(ZX-3, ZX-4, ZX-5), two centre channels (the ZX-C1 and sizable ZX-C2) and a dedicated surround model (ZX-S). The lineup will be priced between £500 and £2,000 when it goes on sale later this year.

LYRAVOX

If you're eyeing up one of this year's really monstrous TVs and are worried that more terrestrially priced soundbar options don't have the required... gravitas, you need to cast your eye at Lyravox. Its Stereomaster SM2-200 is described as an on-wall hi-fi system, but it's just the thing to give your 85in TV the oomph it needs. Combining beryllium tweeters with Scanspeak midbass drivers and powered by 500W of grunt, it also has such niceties as UPnP streaming with Tidal and Qobuz support, all driven by a two-way remote and control app. The bespoke cabinet has been designed from the outset to be wall-mounted and Lyravox claims it can handle rooms up to 80 square metres; a luxurious design combining high-gloss and chrome makes your ordinary soundbar look a bit parsimonious. The price is something in the region of \$30,000, which isn't much if you say it quickly.

M&K SOUND

A treat at the show was an M&K Sound surround system demo featuring the company's flagship IW300 in-wall models, which aim to be a custom install-friendly variant of the brand's S300 speaker with the same tonal neutrality, dispersion and reference-grade performance. These were deployed with the substantial X12 subwoofer [see HCC #289] and laced up to a Krell Foundation 4K processor and Chorus 7200 amplifier. Clarity, detail and dynamics all impressed.

LANSCH AUDIO

Not everything in audio needs to be heavy. With tweeters, the reverse is true. So how about a tweeter without any measurable mass at all? German brand Lansche Audio has one – its speakers use a ball of ionised plasma as a high-frequency driver. It's exceptionally responsive, but isn't exactly cheap. Lansche doesn't have anything so gauche as a printed price list but you're going to need at least £30,000 to experience having a small sun as your tweeter... ■



Lyravox's SM2-200: a soundbar, but not as you know it



“Cinema is really built for the big screen and big sound, so that a person can go into another world and have an experience.”

David Lynch



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OH, WHAT A LOVELY HDR FORMAT WAR

Dolby Vision vs HDR10+? **John Archer** explains how the world of cutting-edge home cinema has managed to get itself into another fine mess

HIGH DYNAMIC RANGE technology has brought a new level of image quality to the home cinema experience, from 4K Blu-rays to streamed series and next-gen games. But it's also been a source of consumer confusion – something that's escalated with the emergence of two competing formats of 'premium' HDR: Dolby Vision and HDR10+. And as hardware makers are in some cases picking one format only rather than supporting both, the format wars of yesteryear immediately spring to mind...

How do Dolby Vision and HDR10+ differ from normal HDR?

Both Dolby Vision and HDR10+ are classed as dynamic HDR formats, while the industry standard HDR10 system is described as static.

Content mastered in HDR10 comes with single metadata values for Maximum Frame Average Light Level (MaxFALL – the brightness of the frame with the highest average brightness in a film), and Maximum Content Light Level (MaxCLL – the brightness of the brightest pixel anywhere in the film). Dolby Vision and HDR10+, on the other hand, carry additional scene-by-scene picture information. Think of it as your HDR TV being given extra guidance as to how the image is meant to look.

The core HDR10 system is supported by all HDR-capable hardware, but HDR10+ and Dolby Vision require specific processing and certification to work on any given device.

And this dynamic approach leads to better picture quality?

Yes, although the extent of the difference depends on the HDR TV you're watching it on, with relatively affordable TVs typically getting the most benefit.

Adding scene-by-scene information helps compatible TVs do a better job of working out how best to render an HDR scene. The most common results are enhanced contrast, with deeper blacks and brighter whites/colours, plus generally brighter-looking outdoor/well-lit sequences.



Dynamic metadata – the new VHS vs Betamax?

Dynamic metadata is more helpful to lower-cost TVs because high-end sets have greater processing power to analyse incoming HDR images, and can apply their own scene-by-scene picture adjustments. In fact, some manufacturers maintain that dynamic HDR isn't necessary at all on their premium displays. Our experience, however, is that Dolby Vision and HDR10+ improve picture quality on any screen, even high-end models – and the formats provide extra picture info specified during mastering by the content creators, giving you more of the 'as the director intended' experience than settings merely calculated by a TV.

The difference HDR10+ and Dolby Vision can make is down to some extent to the content. You'll tend to see the most dramatic results on very contrast-rich sequences, rather than on exclusively very bright or very dark material. And the effectiveness of the formats can depend, at least theoretically, on how frequently extra data is inserted.

So what's the difference between HDR10+ and Dolby Vision?

On the content-creation side, Dolby Vision masters colour to 12-bit levels, whereas HDR10+ only works in the 10-bit domain. This should lead to more colour subtleties and less colour noise with Dolby Vision. Current TVs only work in 10-bits or 8-bits, but Dolby claims that mastering at 12-bits yields better results when 'downscaled'. And there's always the chance that 12-bit displays will arrive one day...

Dolby Vision is a more enclosed, end-to-end system. It requires specific Dolby Vision encoders and decoders, which maintain Dolby's proprietary 'black box' (AKA secret picture sauce) technology throughout the distribution chain. Dolby's system also contains algorithms that recognise the specific capabilities of the screen a Dolby Vision feed is going to, to further optimise performance.

HDR10+, on the other hand, takes a less proscriptive, more open approach. It lets TV brands have a say in the way the system works/develops,

and leaves more leeway for individual TVs to apply some of their own 'secret sauce' to the end results.

When it comes to cost, HDR10+ requires brands that want to use it to pay an annual administration fee per manufacturer, whereas Dolby Vision requires payment of a licence for every device.

Which content creators are supporting which format?

This is where things get frustrating for AV fans who want to watch any film they buy in the best picture quality possible. At the moment film studios aren't generally making content available in both formats, and tend to favour one over the other.

Dolby Vision is currently the most widely used, which isn't surprising given that it's been around much longer. Studios that have released movies for streaming and/or 4K Blu-ray in Dolby Vision are Warner Bros., Universal, Disney, Paramount, Columbia, Sony, New Line, Summit, MGM, DreamWorks, New Regency and Lionsgate. The big hold out has been 20th Century Fox (more on that later).

Disney, however, stopped adding Dolby Vision to its new 4K Blu-ray releases a few months back (although it does still offer Dolby Vision on digital streams). Also, Warner Bros. and Universal have become members of the HDR10+ Alliance, possibly signalling a shift away from Dolby Vision with future titles. As yet, though, neither studio has released anything in HDR10+.

Back to 20th Century Fox. This studio was a founder member of the HDR10+ Alliance, and has recently become the first to release UHD titles with HDR10+ encodes (alongside IMAX, which has issued a couple of HDR10+ IMAX Enhanced 4K Blu-rays from its own documentary catalogue). Yet in July Fox will ship its first 4K Blu-ray with both HDR10+ and Dolby Vision grades (the James Cameron produced sci-fi *Alita: Battle Angel*). Lionsgate (with its 4K release of the 2018 flick *Robin Hood*) is another studio opting for a dual format approach.

The situation is therefore best described as fluid, and likely to continue to change. Will Disney taking over 20th Century Fox have any impact? Will Warner Bros. and Universal actually deliver on their HDR10+ promises?

Consider the response I received from Universal after asking for clarification on its Dolby Vision/HDR10+ plans: 'Titles may be released with one [format] or the other or both or perhaps none. Determinations will be made on a title-by-title basis, driven by an assortment of business considerations.' So there you go. Perfect clarity...

How about hardware?

There's more complication when it comes to home cinema hardware. Most large brands now support a dynamic HDR system, but only a few have (very recently) integrated both. If you bought a 4K TV in 2018 or earlier, you're likely 'locked' in to one format (or perhaps neither) until you upgrade.

Samsung was the main developer of HDR10+, and now incorporates it on all of its 2018 and 2019 TVs, plus some 2017 models. Its M9500, M8500



Philips' 2019 TV range caters for both Dolby Vision and HDR10+ devotees

and M7500 4K Blu-ray players decode it (although Samsung recently revealed it's pulling out of the 4K Blu-ray player market). The company's devotion to HDR10+ makes it the only major brand not offering Dolby Vision on any of its AV products.

LG and Sony currently support Dolby Vision exclusively on TVs and 4K Blu-ray players. Vizio (in the US) and Hisense, too, are Dolby Vision stalwarts.

Microsoft's Xbox One S and X consoles offer limited Dolby Vision support for streaming, but no HDR10+ functionality. The latest Apple TV and Google Chromecast Ultra players also handle Dolby Vision but not HDR10+.

There is hope for AV fans who want to be able to enjoy both premium formats. Panasonic, Philips (in Europe) and TCL have all announced they're introducing 4K TVs this year that will play both dynamic HDR flavours. And in the case of Philips, this approach extends to its entry-level/mid-range 6000 Series sets.

On the source front, Oppo's (sadly no longer available) UDP-203 and UDP-205 4K Blu-ray players can handle both, as can Panasonic's DP-UB820, DP-UB9000 and DP-UB450, and (via an announced future firmware update), Pioneer's UDP-LX500 and UDP-LX800. Amazon's Fire TV

Apple, through iTunes and its 4K media player, offers a large library of Dolby Vision content



The DP-UB820 is Panasonic's middle-tier multi-HDR disc player



Lionsgate's *Robin Hood* was the first dual HDR format 4K Blu-ray

Stick 4K also supports both Dolby Vision and HDR10+ streaming.

Ah, streaming. Is the format war being fought here too?

Yes. Boxset bingers get similar treatment to Blu-ray buyers. The use of dynamic metadata is growing, but there's plenty of variance.

Starting with Netflix, the streaming giant currently offers Dolby Vision on some of its HDR titles, but not all – the rest are in HDR10 only, with no implementation of HDR10+. European corp Rakuten has a similar strategy, adding Dolby Vision to its platform in 2018 but not yet its HDR10+ rival. Apple TV supports by far the widest range of HDR movies in the streaming arena, with an impressive number of these available in Dolby Vision. Again, there's no HDR10+ support.

So where will you find HDR10+? Amazon Prime Video. This VOD platform is actually the only place making HDR10+ streams available, and it features it on all of its HDR shows. Just to keep you on your toes, however, it additionally offers Dolby Vision on a few series, such as *Jack Ryan*. Even more confusingly, some Amazon content is Dolby Vision flavoured in the US, but nowhere else.

Note that in all cases where Dolby Vision or HDR10+ is available on a streaming platform, your TV and any external streaming device you're using will have to be capable of playing the dynamic HDR streams. Otherwise playback will default to static HDR10.

So who's going to win the HDR format war? Or should I expect this to rumble on?

Initially it looked as if Dolby Vision would romp home. Content was around before HDR10+ was even a twinkle in Samsung's eye – it didn't help in this respect that HDR10+ took much longer to be finalised than originally expected – and Dolby Vision is supported across the majority of major hardware brands, Samsung being the obvious exception.

Dolby has a well-established and much respected relationship with creatives in the film and TV business, and it allows them more control over the end-to-end appearance of their masterpieces than HDR10+.

The use of Dolby Vision as a commercial as well as domestic delivery mechanism also gives it a leg up.

Its licensing model, however, seems to be a bone of contention for some software and hardware makers, and some manufacturers like the idea of having more freedom to do their own 'thing' with HDR content. But where you might have expected to see companies removing Dolby Vision compatibility and switching to its rival, this year the trend has been more Dolby Vision adoption.

The dual-format 4K BD releases of *Robin Hood* and *Alita: Battle Angel* point to a possible future where disc buyers no longer need to worry about a 'format war.' Space limitations with 4K Blu-ray, however, and likely mastering time and costs, mean you shouldn't expect this approach to become universal.

An alternative future is one where this format fiasco is neutralised by hardware brands following the multi-HDR lead of Panasonic, Philips and TCL. Yet while it's tempting to think other companies will eventually follow suit, industry politics might have a different idea.

Standard HDR10 is still good, right?

Certainly. And it's here to stay. With the exception of the US Vudu streaming platform, all sources that support either HDR10+ or Dolby Vision roll back to the standard HDR10 version of a movie/TV series when it's played on a display/device that can't support its dynamic variant. You still get an HDR picture to savour, with the format's expanded contrast range and colour.


Because of this, it's arguable there isn't an HDR format war at all. Both Dolby Vision and HDR10+ are piggy-backing on another delivery mechanism, rather than seeking to replace it. This isn't a re-run of Blu-ray vs HD DVD, where one format won't play at all in devices made for the other.

The counter argument, however, is that getting the best picture quality is a major motivator for many who've invested in a 4K HDR home cinema system. And for now and the foreseeable future, unless you buy hardware that's capable of playing both dynamic HDR formats, you won't be guaranteed to experience every 4K HDR disc or stream you watch at its full potential ■



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TV brands may say 3D has gone flat, but Hollywood studios think otherwise. Steve Withers and Anton van Beek cast their eyes over the recent wave of 3D Blu-rays

3D

Blu-ray

ANOTHER DIMENSION IN HOMECINEMA...



Aquaman's 3D presentation has fun with all that water...

AQUAMAN

Warner Bros.' waterlogged superhero movie is an epic in every sense of the word, and this excellent conversion adds layers of detail to the CG-saturated production design. The aquatic nature of the film lends itself to stereoscopy, with particles floating in your face to help sell the soggy visuals, and with scenes clearly framed for the added dimensionality, *Aquaman* becomes a reference 3D presentation. An explosive chase across Sicilian rooftops sends debris flying past your head, and Arthur and

Mera's descent into the Trench is a visual feast. The amount of depth on offer is often staggering, whether it's the land-locked vistas or the vast underwater kingdoms.

However, a big disappointment is that the 3D image is presented in a constant 2.40:1 aspect ratio, whereas the 1080p Blu-ray and 4K discs open out to 1.78:1 for the IMAX sequences (actually a majority of the film's running time).

Furthermore, audio here is DTS-HD MA 5.1, rather than the Atmos mix found on the 2D/4K releases. This will become a recurring theme...



ANT-MAN & THE WASP

This fun sequel was overshadowed by *...Infinity War* (p33) on its initial release, but its miniaturised antics look excellent in 3D thanks to a state-of-the-art conversion from Marvel. Just about every scene benefits from the added dimensionality, whether it's the interiors of Scott's house, the clever design touches in Hank's lab, or the film's changing perspectives (the titular heroes shrinking down to microscopic size or Ant-Man going big). The running sight gag relating to Scott's faulty regulator is also funnier in 3D, while Hank's journey through that all-important Quantum Realm boasts the freakiest visuals since *Doctor Strange*. It's a flawless 3D presentation and a must-have for fans of the format.

While Atmos sonics are reserved for the 4K platter, the 3D Blu-ray keeps the aspect ratio switching for IMAX sequences, such as the chase through the streets of San Francisco.



FANTASTIC BEASTS: THE CRIMES OF GRINDELWALD

This latest entry in Warner's Wizarding World cash-grab fails to deliver a decent plot or even a second act, but it does look magical in 3D. As the title credits sweep past your head, the film plunges you into a beautifully recreated 1920s New York. Cinematography tends towards the dark and monochromatic, but the conversion is expertly applied to give the production design added depth. Newt's underground menagerie is a standout sequence, and the flame-filled climax looks spectacular.

The 3D experience is often used in a creative way by deliberately pushing the effect, such as when a character's POV is influenced by a love charm. The filmmakers aren't averse to poking you in the eye with the occasional wand either, and while that might be considered bad form, it's also what makes 3D fun.

Once again Warner fails to conjure up the Atmos mix of the 2D and 4K discs, resorting to DTS-HD MA 5.1 instead.



THE MEG

Jason Statham battles a prehistoric shark that could eat *Jaws* for breakfast. Sadly this 3D Blu-ray washes up on shore with a conversion that, while perfectly watchable, fails to deliver the kind of gimmicky shots a film like this deserves. The submarine interiors probably benefit the most, with the boosted dimensionality creating a greater sense of claustrophobia. Scenes on the surface of the water also make use of the increased perspective, and those in the research station's curved transparent corridors have a nice spatial quality. However, underwater shots lack the scale and depth of *Aquaman*'s epic landscapes, and while the Meg itself has a visible sense of scale in sequences like the beach attack, at other moments the quick editing doesn't give your brain time to register the size of the shark before cutting to the next shot. The 2D/4K Atmos track has sunk without trace too.



SOLO: A STAR WARS STORY

Production troubles and a ballooning budget helped turn *Solo* into the first *Star Wars* flop. You'd think a \$300 million movie could afford some lights, but apparently not. This has some of the darkest and blandest cinematography ever seen in a big-budget film, so despite a solid conversion it becomes almost unwatchable as soon as you don a pair of 3D spex. There are some standout sequences, such as travelling through hyperspace and the Kessel Run, while the train heist and climax benefit from being shot outdoors, in daylight. But for large stretches of the film you literally can't see what's happening (the sabaac game is particularly challenging) – a shame because

when you can there's some excellent dimensionality in the image. The niggles don't stop with the picture, as the disc features a DTS-HD MA 7.1 track rather than the 4K platter's more immersive Atmos mix.



HOW TO TRAIN YOUR DRAGON: THE HIDDEN WORLD

DreamWorks' popular CG-animated saga about dragon-loving Vikings has been a fixture of the 3D Blu-ray landscape ever since the original film was exclusively bundled with Samsung's 3D hardware back in 2010. Sadly, this third and final film in the series is unlikely to cause quite as much of a stir among home cinema fans as that initial release. Not only is the movie itself the weakest of the bunch, but the 3D encode is a frustrating affair. It's not without its share of impressive stereoscopic moments (the flight into the 'Hidden World' is eye-poppingly gorgeous, and the filmmakers make several uses of an oddly effective trick that has characters enter the foreground of the frame from 'behind the camera'), but there are far too many scenes that employ low-light levels which only serve to flatten out the imagery. Backing up the 3D encode is a (slightly restrained) Dolby Atmos mix.

THE INCREDIBLES 2



This belated sequel is an animated love-letter to superheroes in general and the Fantastic Four in particular that

also makes for a first-class 3D presentation. Depth and perspective form an integral part of the film's computer-generated design, and the dimensionality is often used in imaginative and entertaining ways. Interiors all have a sense of carefully conceived space, while characters are solid in their presentation. The opening battle with the Underminer is a great example of how added depth can enhance a scene, while a high-speed train chase uses perspective to highlight Elastigirl's unique abilities. A fine reminder of how effectively a 3D presentation can immerse you in the action – even without Atmos audio.

BLACK PANTHER



This smash-hit Marvel movie is presented in 2.40:1 but opens to 1.90:1 for the IMAX scenes, while the 3D soundtrack is

DTS-HD MA 7.1 rather than the UHD Blu-ray's Dolby Atmos iteration. The 3D conversion is successful – the film boasts multiple scenes that lap up the added depth, such as a ship flying through the barrier that protects Wakanda from the outside world, or two rivals fighting to the death on the edge of a vertiginous waterfall. In a similar vein, a punch-up on a subterranean train line uses perspective to give the visuals a remarkable sense of space. The filmmakers also delight in chucking the odd spear out of the screen during the climactic battle. Overall, it's pretty Marvel-lous.

MORTAL ENGINES



This madcap fantasy proves a film can be designed from the ground up to look amazing in 3D. Be it the interior of a giant

London on tracks, or the huge scars those tracks leave behind in the ground, the added dimensionality here gives everything more depth and solidity. The colourful cinematography is well-lit and scenes are clearly composed for 3D, with the conversion bringing out all the details in the complex mechanical creations. Airborne sequences are carefully layered with billowing clouds that create an aeronautical sweep, while landscapes frequently reveal details in the far distance. And even small things look better: Hester's scar has greater definition and Shrike's eyes are more terrifying. Audio is DTS-HD MA 7.1.

Golden oldies

And no 3D disc collection is complete without these

Hugo

It's a shame Martin Scorsese only shot one movie in 3D, because *Hugo's* vital and immersive visuals pack a wow-factor and show the veteran filmmaker has a keen understanding of how to use the technology to bolster a story.

Prometheus



Ridley Scott's *Alien* prequel divided audiences, but the same surely cannot be said of the quality of the film's 3D Blu-ray encode. This reference-grade imagery adds another dimension of thrills to *Prometheus'* sci-fi-horror action.

Dial M for Murder

Alfred Hitchcock's decision to load so many shots in his 1955 thriller with various foreground objects suddenly made a lot more sense once we were able to view *Dial M for Murder* in its native 3D courtesy of Warner Bros.' nicely restored 2013 Blu-ray.

Creature from the Black Lagoon



From underwater worlds packed with layers of foliage capable of hiding unseen terrors, to more gimmicky out-of-the-screen scares, director Jack Arnold's classic 1955 creature-feature was simply made to be enjoyed in 3D.

Avatar

What should have been the standard bearer for the 3D Blu-ray format was waylaid for the best part of two years by an exclusivity deal with Panasonic. Even so, Fox's 2012 disc features some of the finest 3D visuals you'll ever see. Roll on the sequels!



SKYSCRAPER

This high-concept film is essentially *Die Hard* meets *The Towering Inferno*, but sadly isn't as fun as that sounds. The 3D presentation falls short too, taking subject matter that offers plenty of opportunities for acrophobic action, and then failing to fully capitalise. There are impressive aerial shots of the Hong Kong skyline when we first see The Pearl skyscraper of the title, and an early scene at the top of the structure will have you weak at the knees, but with much of the film confined to rooms or at street level, it's left to a number of key action sequences to do the heavy 3D lifting. The Rock's attempt to enter the skyscraper via a crane definitely benefits, as does his Spider-Man routine using duct tape on his hands and feet. It's a fun but far from essential 3D conversion, with Atmos audio (as found on the UHD release) replaced by DTS-HD MA 7.1.



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DR. SEUSS' THE GRINCH

The third bigscreen adaptation of Theodore 'Dr. Seuss' Geisel's *How the Grinch Stole Christmas* can't top Chuck Jones's legendary 1966 cartoon, but still proves to be an enjoyable enough update of the story – and one given a superb stereoscopic Blu-ray presentation.

Colour, clarity and sharpness are especially striking, ensuring that every frame of the platter's 2.40:1-framed encode conjures up a tangible volumetric space. An early sequence where the Grinch is pursued through the streets of Whoville by a festive choir may leave the green meanie in a foul mood, but 3D fans will be beaming with delight at the accomplished sense of depth present in the image, and the seamless way in which characters move through it. Better yet, unlike so many of the other titles in this roundup, ...*The Grinch's* stunning stereoscopic visuals are partnered by equally immersive and involving Dolby Atmos-powered 3D sonics.



READY PLAYER ONE

The 3D Blu-ray is undoubtedly the best way to experience this highly entertaining virtual reality thriller. Not only is it an '80s nostalgia-fest, it's also a calling card for the third dimension.

The scenes in the real world have a degree of depth, but it's a more subtle conversion and the colours are muted. However, as soon as we enter the Oasis, the multicoloured virtual world rushes past and the results are often stunning. Freed from the strictures of actual reality, Steven Spielberg's camera weaves through this virtual playground with abandon. The opening race is a masterclass in added dimensionality, with Parzival below the race track, looking up through it to the action above. It has incredible depth, and there are plenty of other examples after that, from the weightless dance floor to the rivers of blood in the Overlook Hotel. Objects loom out of the screen, or extend into it.

It's another Warner Bros. release, so don't look for the 2D/4K Dolby Atmos track.



JUMANJI: WELCOME TO THE JUNGLE

This clever and charming sequel takes the original's boardgame concept and gives it a videogame makeover, using the genre's tropes to entertaining effect. Its 3D conversion is potent – and that doesn't just apply to the Rock's contoured muscles. The jungle setting has excellent depth and detail, while the dimensionality brings out touches you might otherwise miss, such as the character's reflections in the displays that show their respective strengths and weaknesses. There are some fun popping-out-of-the-screen moments (especially one involving a snake...), and a helicopter chase is a 3D thrill-ride, with canyon walls encroaching on either side. The only flaw to this conversion is that it can be a bit too dark at times, especially when the action takes place under the jungle canopy. This release uses the Blu-ray's DTS-HD MA 5.1 track rather than the 4K disc's barnstorming Atmos heroics.



STAR WARS: THE LAST JEDI

This might be the most divisive *Star Wars* entry of all time, but at least the Force is strong with *The Last Jedi* when it comes to 3D (but not Dolby Atmos...). From the opening text crawl there's excellent use of depth, and as the camera glides past escaping ships and down to the planet's surface, you know you're in for a three-dimensional treat. A First Order dreadnought arrives, its nose thrust out of the screen, making for an impressive 3D entrance. Space battles are pure eye-candy, with craft flying over multi-layered surfaces and through well-defined three-dimensional spaces, and the various interiors benefit from impressive spatial composition. And unlike *Solo...*, this is a beautifully shot film where the 3D presentation often delivers a clear upgrade over the regular Blu-ray. The climactic battle on Crait gleams with bright white salt, creating vistas that extend to the horizon...



Golden oldies

And no 3D disc collection is complete without these

House of Wax



The first colour 3D film from a major Hollywood studio, this 1953 shocker was directed by a man who was blind in one eye, but is still jam-packed with stereoscopic tricks and tomfoolery. Our fave is the chap with the paddle-board outside the museum who keeps launching his ball at the viewer.

Tangled

Disney's 2010 take on *Rapunzel* isn't just one of its freshest and funniest 'toons of the past decade, it's also a stereoscopic *tour de force*, with the lantern scene still ranking as one of the toughest torture tests around for 3D displays.

It Came from Outer Space

Produced with the assistance of the talented team at The 3-D Film Archive, this Blu-ray presentation of Jack Arnold's eye-popping 1953 sci-fi smash demonstrates superb depth and sharpness.

Dredd

Shot using a mix of Red and Phantom 3D cameras, plus kit developed especially for the film, *Dredd* delivers an unforgettable, eye-searing stereoscopic experience like nothing else around. If you've only seen it 'flat' then you haven't really seen it at all.

Titanic



Spread across two Blu-ray discs, Fox's stereoscopic conversion of James Cameron's disaster epic is all the proof you need of how good 3D retcons of 2D films can be when those responsible put in enough care and attention.



AVENGERS: INFINITY WAR

Marvel's superhero mashup benefits from an action-packed and streamlined plot that hurtles towards its heartbreaking cliffhanger. The studio has been producing superb 2D-to-3D conversions for years, and this is one of the best. It constantly uses the added depth to make its sets more visually appealing, with spaceship interiors benefitting the most. Thanos seems all the more mighty in three dimensions, and the sight of him bringing

an entire moon down on Iron Man's head is a particular highlight.

The added perspective gives the climax an epic quality, with the Wakandan battlefield receding into the distance. But even the simplest shots come alive in 3D, revealing small details you might have missed when watching the film flat.

Unlike many other Marvel 3D releases...*Infinity War* doesn't open out to 1.90:1 for the IMAX scenes, using a constant 2.40:1 aspect ratio instead. But like all Marvel 3D releases, you get DTS-HD MA 7.1 sonics rather than the Atmos track included on the 4K disc ■



Thanos (top): all the more mighty in 3D



To the manor born

This cinema turns structural elements into aesthetic touches and wraps its audience in immersive audio.

Mark Craven reports

A

B

KIT CHECKLIST

SONY: VPL-VW550ES 4K HDR projector

DISPLAY TECHNOLOGIES: 3.6m-wide 2.37:1 ratio acoustically transparent screen

SONY: UBP-X1000ES 4K Blu-ray player

ARCAM: AVR850 AV receiver; P429 power amplifier

ARTCOUSTIC: 3 x Spitfire SL 16-8 (front LCR); 4 x SL 4-2 (surrounds); 4 x Architect 4-2 (height); 2 x Performance 4 subwoofers; 2 x PA750 subwoofer power amplifiers

CONTROL4: EA-3 home automation processor and lighting control



THIS PLUSH CINEMA room occupies the former attic-based 'servants quarters' in a 19th century manor house. Yorkshire installer Bespoke Home Cinemas was asked to deliver an AV experience fit for a lord...

Size and layout presented initial challenges. Support pillars for a dormer window along the left-hand wall needed to be removed, and the length of the room was more than required for the desired twin-row seating, and would have resulted in less-than-optimal placement for rear surround speakers. To overcome this, the rear wall was brought forward with concealed custom-made cabinetry, providing space for the cinema's kit rack, surround speakers and Sony VPL-VW550ES 4K projector – the latter housed in an air-cooled hushbox to reduce sound leakage, and firing into the room through an aluminium porthole ring. Meanwhile, the intrusive support pillars were replaced by cantilevered steel beams tethered to an RSJ eventually hidden by the seating stage.

Arcam Atmosphere

Further work, following CAD designs to ascertain correct speaker positioning to hit reference level volume across all seating positions, saw the screen-end also given a makeover. A baffle wall was constructed to house the fixed-frame projector screen, Artcoustic LCR speakers, and – at floor level – two subwoofers (each with a quartet of 10in bass drivers). The finished speaker array is 7.2.4, run by a Dirac EQ-enabled Arcam

A. Beaming lights

Cantilevered steel beams were needed to support the roof once previous pillars had been removed – both of them were then used to house downlighters/uplighters, governed by the cinema's Control4 automation system

B. All wrapped up

Dark materials were chosen to heighten the movie den vibe, with walls, ceiling and cabinetry all wrapped in fabric

C. Made for movies

The projector screen is a cinematic 2.37:1 ratio model from Display Technologies, using an acoustically transparent material



Preparation work included reinforcing the roof, constructing a raised floor for the seating row, and front- and rear-wall cabinetry



The cinema's Artcoustic Performance subwoofers are concealed in the front baffle wall and powered by external 750W amplifiers



AVR850 receiver and Arcam P429 four-channel power amplifier.

The Sony projector delivers 4K HDR movie playback from a Sony UBP-X1000ES player to the cinema's 3.6m-wide screen; the installers used the PJ's lens memory function to switch automatically between 16:9 and CinemaScope visuals.

For the final design, the structural roof beams became an integral element in the room's aesthetic, fitted with lighting troughs to incorporate downlighters and RGB uplighting. Doors, walls, ceiling and cabinetry are all acoustically treated and wrapped in a dark fabric. Automation of the system (via a Control4 processor) includes preset lighting scenes, including 'intermission' lighting when a film is paused ■

D. Collaboration in comfort

These nine Nappa leather heated recliners are one-off models in conjunction with Dutch company Ineva Designs. All have dual reclining motors and articulated headrests

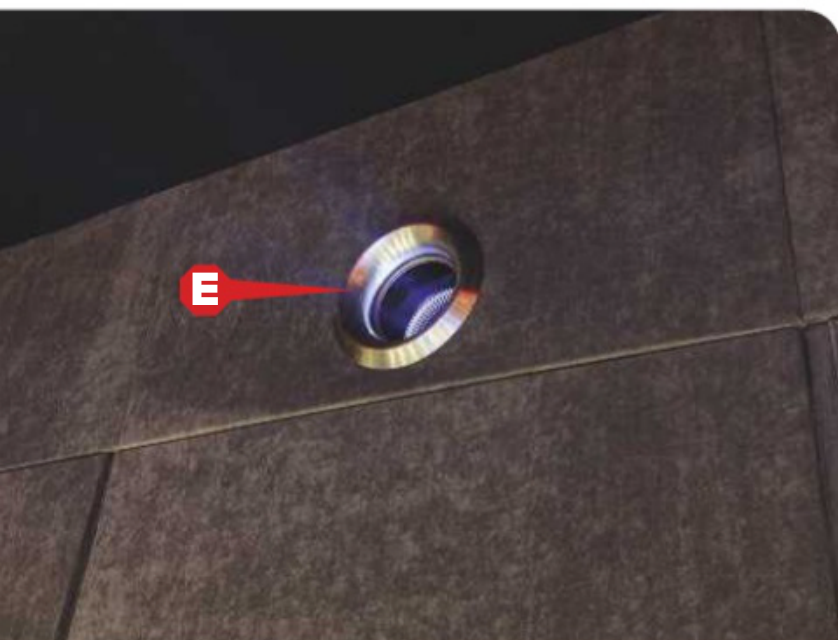
E. Peeking projector

Bringing forward the rear wall enabled prime position of rear surround speakers,

and allowed the Sony 4K projector to be concealed in its own temperature-controlled hush box

F. Wall of sound

Behind the screen sits the LCR speaker trio – Artcoustic's Spitfire 16-8 models feature 16 midbass drivers and eight tweeters to reach an amplifier-friendly claimed sensitivity of 101dB





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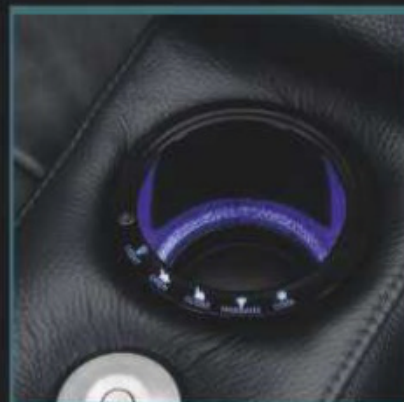
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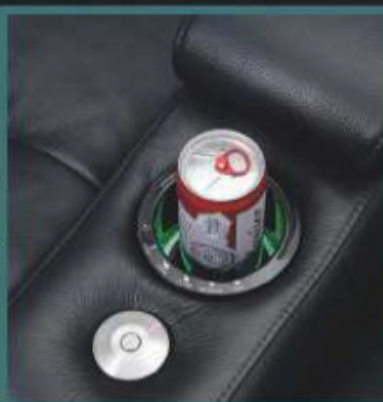
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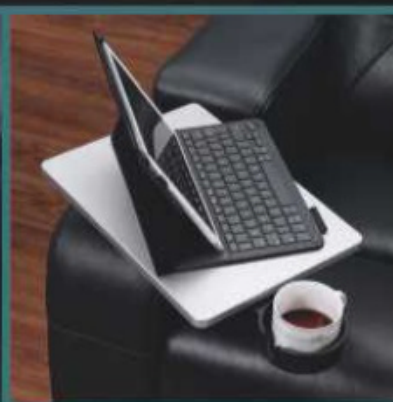
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REVIEWS

→ **HARDWARE** KLIPSCH Reference Premiere 5.1 floorstanding speaker package
 SAMSUNG Q70R Dolby Atmos soundbar and 82in 8K TV BENQ Flagship DLP 4K cinema projector
 BLUESOUND Revamped premium hi-res soundbar MANHATTAN Freeview Play/streaming STB
 LG 65in E9 OLED TV ELIPSON In-wall/on-wall 5.2.4 Infinite system & MORE!

Short-throw 4K with style



ViewSonic's X10-4K projector marries smart design and convenient installation with 4K HDR DLP technology. Does it have the performance chops to make traditional PJs seem old-fashioned? Turn to p56 to find out.

All prices quoted are approximate and may have changed

HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆

AV INFO

PRODUCT:
65in 4K HDR OLED

POSITION:
Flagship integrated OLED, positioned above the B9 and C9, but below the 'wallpaper' W9

PEERS:
Samsung 65Q90R;
Sony KD-65AG9

1. LG's curved handset supports voice interaction

2. Speaker drivers are hidden in the bezel below the screen

LG's fine-tuned OLED impresses **Steve May** – even with an obvious spec-sheet omission

A 4K feast for the eyes

The LG E9 is an exceptional 4K flatscreen. Available in 65in (as tested here) and 55in guises, it's the top-ranked integrated OLED in LG's 2019 lineup, positioned above the C9 and B9. Burdened with glorious functionality, it employs the second-generation Alpha9 intelligent picture processor and offers support for high-frame-rate 4K sources via HDMI 2.1. Inevitably, there's a caveat. But let's not get ahead of ourselves.

Predictably thin, with a nigh-on invisible rim holding its glass in place, the E9 has catwalk good looks. And function supports form.

The forward-facing sound system, much like the OLED panel itself, is impressively thin. Beneath the driver array is a transparent perspex lip which not only gives the illusion that the set is floating, but cleverly helps stabilize it, with the aid of a heavy pedestal counterweight hidden behind the screen.

All four of its HDMI inputs are freshly-baked 2.1, which in terms of future-proofing could be a big deal. On last year's LG OLED screens, high-frame-rate (HFR) support was only available for USB content; with the adoption of HDMI 2.1, HFR 4K support, along with eARC, VRR (Variable Frame Rate) and ALLM (Auto Low Latency Mode) are now standard. Not essential upgrades, but good news for serious gamers.

Additional connectivity includes a trio of USBs, Ethernet, an optical digital audio output and a mini headphone jack (which I doubt will ever get used). Wi-Fi and Bluetooth are options for streamers.

LG has tidied up the interface of its WebOS smart platform for 2019, and the result is a cleaner user experience. Not only are there fewer apps (down from 35 to 16) shown in the ThinQ AI launcher bar, it also occupies less screen space. Use the Intelligent Edit feature to better customise onscreen options to suit your viewing habits.

The launcher bar still offers access to various streaming apps, including NOW TV, Netflix, Amazon Prime Video, Rakuten TV, BBC iPlayer, ITV Hub, All 4 and Demand 5 – the latter four carried via the TV's implementation of a Freeview Play tuner. A secondary preview bar interrogates streaming apps to provide a list of selectable content.

LG's ThinQ AI voice control is also smarter this time around, in that it now understands context so interaction becomes more conversational. Google Assistant is also built-in, and there's compatibility with Amazon Alexa and Apple AirPlay 2.

Familiar feel

Unsurprisingly, given the set's premium aspirations, its image quality is superb. The E9 offers pin-sharp detail and vibrant colour fidelity, with reassuringly deep black levels and copious shadow detail – attributes we know and love from OLED.

Out of the box, the default picture mode is Eco; while undoubtedly worthy, it's not recommended and should be changed to one of the other presets. The selection includes Cinema, Sports, Game, HDR Effect, Vivid and Standard. Most users will gravitate to the latter, for good reason. The colour temperature here and overall brightness level is ideal for everyday viewing.

Included as part of this preset bouquet is Deep Learning AI picture management, which allows the panel to better display shadow detail by reacting to viewing light levels and adjusting tone mapping accordingly. This algorithm has, says LG, been crafted from a database of millions of data points covering source recognition and picture optimisation. Such content and quality analysis represents a significant evolution in picture processing technology, and I found no obvious reason to deselect this when the screen is used in a regular living room environment.

LG's menu system remains complicated and a tad confusing, but there's not a lot of tweaking necessary; just keep noise reduction and smooth >



2



**HI-VIS
HEROICS**

Emmet has a
job on his hands
in *The LEGO
Movie 2*, p95



3

gradation settings low, unless you have low-quality sources that demand some help.

Standard bearer

Fed an HDR10 source (most 4K Blu-rays), picture presets switch to Cinema Home, Cinema, Game, Technicolor, Vivid and Standard. Of those, the Technicolor and Cinema options are too dull to enjoy; there's a colour cast which really doesn't celebrate the benefits of the OLED panel. Cinema Home, which has increased mid-tone luminance, and Standard both provide a more satisfying viewing experience. Note that the preset choice narrows again when Dolby Vision content is detected.

The E9's HDR performance is largely in line with what we expect from a premium OLED display. The panel burns brighter with a smaller 5 per cent HDR test window than a 10 per cent one, which bodes well for its real-world HDR performance, as specular highlights are generally fleeting and small. HDR highlights peaked at 843 nits in a 5 per cent window, and on average managed around 800 nits. This is virtually identical to the performance of LG's 2018 OLED displays.

What you really need to know is that the opening space battle in *Star Wars: The Last Jedi* (Ultra HD Blu-ray) looks gloriously dynamic, with its fiery explosions juxtaposed against deep, black space. There's visceral punch to this LG's HDR imagery.

Dolby Vision performance is sumptuous too, as evidenced by stop-motion animation *Rilakkuma and Kaoru* (Dolby Vision, Netflix). The detail and nuance evident in the fluffy bear characters is exquisite; exterior shots of fabric cherry blossoms bathed in bright sunshine have almost three-dimensional depth (and no, the set isn't 3D compatible).

DV grading always seems spot on. The Californian beach scenes in *Dead to Me* (Netflix, see p102) have

'The E9 offers pin-sharp detail, vibrant colour fidelity, reassuringly deep blacks and copious shadow detail'

enticing warmth, while zombie drama *Black Summer* (also Netflix), with its colour denuded palette and extreme detail, looks terrifyingly realistic.

Near-black shadow performance is an area where rival OLED brands are doing battle. For what it's worth, I spied no low-level 'flashing' during my audition, something noted on 2018 screens under certain conditions in areas of near black. Peering into the Gothic murk of *What We Do in the Shadows* (Amazon Prime) revealed nothing more than expected tonal variations. Running through the

subterranean sequences in *Resident Evil: The Final Chapter* (UHD Blu-ray) revealed plenty of low-level noise, but this isn't particularly detectable at a normal viewing distance.

The brand's frame interpolation toolbox is impressive. Trumotion can be switched off, or run with Smooth, Clear or User determined dejudder and deblur (my preference is for de-judder on or near zero, and de-blur close to 10; yours may vary). Clear processing does introduce minor artefacts, but for general TV content and sports (I experimented with tennis and Formula 1), it looks fine. For movie playback I would typically turn the setting off completely. The Motion Pro option is actually a Black Frame Insertion tweak, albeit one that introduces flicker and stutter.

Deeper control can be had through Dynamic Contrast, Dynamic Colour, Super Resolution, and Dynamic Tone Mapping tools. The latter has been given an overhaul this season, with improved signal range detection algorithms. Tone mapping is also now optimised for panel type.

Of course, not everything you'll watch is in HDR, and some questions remain over the E9's treatment of SDR. Doing time with *Orange is the New Black* (Netflix), the image looks over-egged when HDR Effect is engaged. It's certainly not as satisfying, or convincing, as Sony's Object Based HDR Remastering default setting.

Assured audio

The E9 impresses sonically. The TV may flaunt a wafer-thin design, but makes a fine noise, even if the sound output – designated as 4.2-channel – still sounds basically stereophonic. Dialogue is crisp and clear, with appreciable mid-range. When Supreme Leader Snoke makes his displeasure felt at the downing of the Dreadnought, in *...The Last Jedi*, there's reassuring rumble and menace to his voice.

Dolby Atmos decoding is onboard (as well as processing to upmix stereo sources to virtual surround), but obviously the TV can't do that much with the immersive audio format. You'll want to export an Atmos bitstream to a soundbar

SPECIFICATIONS

3D: No **4K:** Yes. 3,840 x 2,160 **HDR:** Yes. HDR10; HLG; Dolby Vision; Technicolor **TUNER:** Yes. Freeview Play; satellite HD **CONNECTIONS:** 4 x HDMI inputs; 3 x USB; Ethernet; digital optical audio output; headphone output **SOUND (CLAIMED):** 60W **BRIGHTNESS (CLAIMED):** N/A **CONTRAST RATIO (CLAIMED):** N/A **DIMENSIONS (OFF STAND):** 1,447(w) x 877(h) x 50.3(d)mm **WEIGHT (OFF STAND):** 20.8kg

FEATURES: Built-in Wi-Fi; WiSA wireless connectivity; Bluetooth; USB multimedia playback; second-generation Alpha9 processing engine; WebOS with ThinQ AI; voice control; Google Assistant built-in; Amazon Alexa; Apple Airplay 2; HDMI 2.1 specification (includes eARC, VRR, HFR)

PARTNER WITH



LG SL9YG: Toward the top of LG's 2019 soundbar range is this £1,000 Dolby Atmos/DTS:X model developed in conjunction with Meridian Audio. Upfiring drivers handle the .2 height channels – an optional extra is the SPK8 wireless rear bundle.

or AV system. Still, as far as integrated audio systems go, this is one of the better factory options.

New this year is support for the WiSA wireless audio standard. Speakers connected via WiSA rather than Bluetooth, as used by LG in 2018, offer better latency performance and have support for 5.1 multichannel connections. Unfortunately I couldn't actually test this, as no WiSA-compatible speakers were supplied.

Gaming performance is excellent, provided you utilise the Game preset, where measured input lag is just 12.8ms. And console junkies will appreciate the inclusion of Auto Low Latency Mode and Variable Refresh Rate from those HDMI 2.1 ports. Enabled by the in-menu Fast Game Response setting, the TV should auto switch to a Game mode when receiving an ALLM signal.

Ready for battle

There remain some quirks (I'm not a fan of HDR Effect), but generally speaking the E9 is a fabulous performer, with a host of cutting-edge features. There's actually scant difference across the various LG OLEDs. Points of difference are largely cosmetic and reflect the various sound solutions offered. Here the overall design of the set is a real crowd-pleaser, and its onboard audio is often bafflingly good.

Of course, the elephant in the room is HDR10+, the rival dynamic metadata standard to Dolby Vision. It's not clear if this will gain significant traction, although the system is widely used by Amazon Prime Video, and is finding its way onto Blu-ray discs. Its absence here puts the E9 at a tick-box disadvantage if you want your next TV to be as future-proof as possible. It also leaves LG vulnerable to incoming OLED models from Philips and Panasonic that support HDR10+ and Dolby Vision. Yes, the E9 is good, but we won't know just how good until the latest Philips and Panasonic sets hit the HCC test bench ■

3. The set uses LG's second-generation Alpha9 processor

4. A perspex lip on the TV's lower edge gives it a floating vibe

4



HCC VERDICT



LG OLED65E9PLA

→ £3,500 → www.lg.com/uk

WE SAY: First-class picture performance makes this a cinematic treat, and functionality is leading edge. But how significant is the lack of HDR10+?



Steve Withers goes to outer space – and then to war – with Klipsch's cinematic six-pack

Sense and sensitivity

Hear the name Klipsch and chances are the first word that comes to mind is horn, or horn-loaded tweeters to be more precise. The US brand has been ploughing that particular technological field for over 70 years, from its first speakers to its new, updated Reference Premiere series.

The Reference Premiere lineup sits above the rather confusingly named Reference Series (reviewed in *HCC* #293), and is aimed at a home cinema environment. The range has been expanded to 18 models and includes floorstanders, five different centre speakers, wide dispersion surrounds, a Dolby Atmos module, and specially engineered subwoofers. But it isn't just a case of more models. There are also audio innovations, improved materials, and cosmetic changes.

Klipsch's proprietary Tractrix horn technology finds the tweeter unit mounted inside a square horn assembly that retreats into the cabinet's front baffle. This approach is intended to correct the difference in air pressure between the tweeter and the air in front of it, resulting in, says Klipsch, improved sensitivity and better HF dispersion. The tweeter itself uses a ceramic magnet housing and venting, combined with a rigid titanium diaphragm.

The midbass drivers are Klipsch's signature copper-spun Cerametallic designs, while the low-end is given a boost thanks to Tractrix reflex-ports that help work to limit distortion and maximise efficiency. The drivers have a striking copper colour that stands out against the black satin painted, scratch-resistant baffles, and the copper trim rings around the woofers and tweeters are a nice flourish. All models come with magnetic black fabric grilles, and the range also offers a choice of ebony or walnut vinyl finishes.

Rock solid

The overall design of the Reference Premiere series might not be to everyone's taste. The horn-loaded tweeters give the speakers a slightly retro appearance, and if you can look past them you'll notice the cabinets also have a boxy feel. But you can use the grilles to cover the tweeters and drivers, and whatever you may think of the aesthetics there's no denying the MDF construction is extremely solid.

Another concern might be the speakers' general size. The RP-6000F floorstanders especially might require

some pre-planning – not because they're overly tall (at just over 1m) but because they're 43cm deep.

The 5.1-channel system reviewed here is built around the £1,100-per-pair RP-6000Fs, which are joined by the £500 RP-404C dedicated centre speaker, two RP-502S surround speakers (£825p/p), and the SPL-120 subwoofer (£650). Depending on your requirements there are plenty of options to expand the configuration into something a bit more immersive, including Klipsch's RP-500SA Dolby Atmos module (£575p/p).

The RP-6000F is the middle of five floorstanding Klipsch Reference Premiere models and uses two 6.5in woofers, combined with a 1in tweeter and an inner-flared rear port. There are dual binding posts for those who like to bi-wire or bi-amp, and each speaker has cast aluminium feet that provide support and isolation.

Two become four

Klipsch has taken an interesting approach to the design of the RP-404C centre speaker. It has the same 1in horn-loaded tweeter in the centre but uses four 4in midbass drivers – two on either side. This configuration reduces the height of the speaker, which is handy for those trying to fit it in front of a TV, while naturally making it rather wide. The idea, as seen on the Reference Series, is that the driver quartet equates to the same radiating area as the two larger drivers in the floorstanders. The RP-404C is also rear ported, has a single set of binding posts, and comes with stick-on rubber bumpers.

The RP-502S is a dedicated surround speaker that uses Klipsch's Wide Dispersion Surround Technology (WDST). That means this (sealed) speaker has two 5.25in midbass drivers and two 1in tweeters firing away from each other at an angle (it's basically a bipole design), distributing surround sound information across a wider area. On the rear you'll find a keyhole for mounting it to a wall, a single pair of binding posts, and, again, rubber bumpers to save your paintwork.

AV INFO

PRODUCT:
Floorstanding 5.1 system with horn-loaded tweeters

POSITION:
Above Klipsch's Reference range

PEERS:
KEF Q Series; Elipson Prestige Facet

1. The Reference Premiere range also features Atmos upfiring modules

All the speakers have a nominal impedance of 8 ohms and the RP-6000F and RP-404C claim a sensitivity of 97dB (the quoted figure for the surrounds drops to 95dB).

Speaker sensitivity is an interesting subject, and one that could take up an entire article. However, it basically relates to the amount of power required to drive the speaker. The more sensitive (or efficient) the speaker, the less power is required. The measurements above relate to the sound output from one watt of power measured at a distance of one metre. An efficient speaker doesn't just require less power, it also generates less heat and generally has a longer component life.

Klipsch's SPL-120 subwoofer completes the system. It features a 12in long-throw Cerametallic driver that is designed to complement the other speakers (even aesthetically), and is powered by a 300W RMS (600W peak) Class D amplifier. The enclosure is a bass-reflex design with a front-firing slot, and the sub has a claimed frequency response of 24Hz-125Hz.

'There was no need to push my AV receiver at all for the room to be awash with a thunderous sonic roar'

The design essentially mirrors the rest of the system, aside from the black fabric grille which attaches using studs. Annoyingly these are on the sub itself, rather than the grille, so poke out of the front baffle when the latter is removed. For one less cable in your life, it can be used with Klipsch's optional (£130) WA-2 wireless kit.

Space invaders

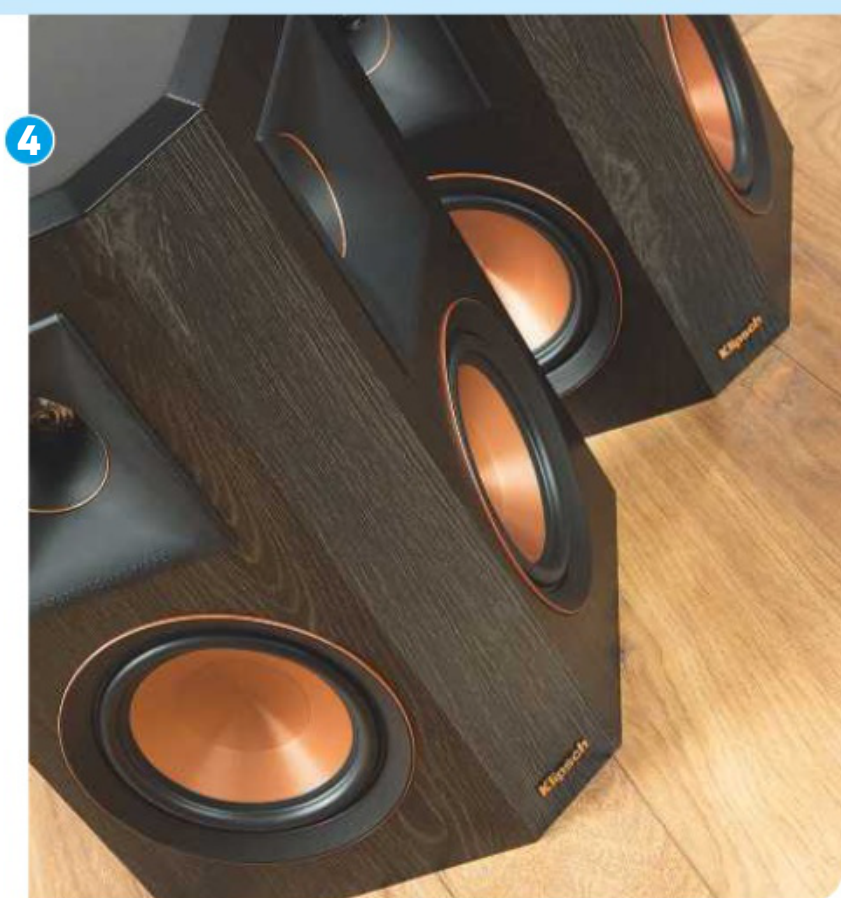
In honour of the 50th anniversary of humankind's single greatest achievement, I decided to kick things off with the excellent *Apollo 11* documentary on Blu-ray. The disc's DTS-HD MA 5.1 soundtrack doesn't muck about, and the Saturn V launch is about as big an audio sequence as you're likely to hear. The sequence really builds in tension before reaching a crescendo as those massive engines fire, at which point the sensitivity of this Klipsch system is immediately apparent.

There was no need to push my Arcam AVR850 receiver at all for the room to be awash with the thunderous roar of that mighty moon shot. All the speakers are engaged, while the subwoofer patrols the lower frequencies and crosses over seamlessly to the rest of the system. The centre speaker is also very impressive, holding its own against the space age sonic maelstrom and ensuring the chatter of astronauts and launch control is presented with admirable clarity.

In anticipation of a new *Men in Black* movie arriving at our multiplexes, I moved on the 4K BD release of the original film. This has a new Dolby Atmos mix that I ran in 5.1, and the results were hugely enjoyable. The sequence where Agent J (Will Smith) touches a floating ball and it then zips all over the place provides plenty of opportunities for effects to flit from speaker to speaker. This package was thrillingly precise, with glass shattering clearly from various points of the room, as the whizzing ball zooms around.

This is noteworthy because it revealed that, despite the different-size midbass drivers across the Klipsch array,





the ensemble is able to retain a cohesive and tonally balanced soundstage.

It's also able to deliver a big and bold cinematic audio experience. This was best exemplified by the final act scene where Agents J and K (Tommy Lee Jones) shoot down a flying saucer. You get a feeling of the size and weight of the saucer as it flies, before exploding and crashing at our heroes' feet like a sonic shockwave. The RP-6000F floorstanders retain plenty of depth on their own (the suggested low-frequency reach is 34Hz), and the sub goes deeper still. The saucer slams into the ground and you feel it.

Looking at the speakers, their ability to hit hard and go loud is probably expected. Yet this doesn't come at the expense of resolving power and subtler soundstaging. With sequences from *A Quiet Place* (Ultra HD Blu-ray) – a film that's primarily about not making any noise – the system proved capable of revealing effects that are kitten's breath quiet. It pulled tiny acoustic details out of the

'The effective integration of the SPL-120 subwoofer finds explosions hitting with plenty of delicious low-end slam'

soundtrack, such as chirruping insects or gentle footsteps, and presented them with unerring accuracy and realism. But again there was no denying the dynamic strength of these cabinets, and the movie's sudden loud noises are delivered with ear-shattering clarity.

The excellent centre speaker ensures the Klipsch front soundstage has plenty of width and scale, while also resolving dialogue with a clear focus. The wider dispersion of the angled surrounds adds to the effect, allowing the back of a soundmix to spread out, filling the spaces behind and to the sides of your listening position. With the new *Black Hawk Down* 4K Blu-ray, which boasts a Dolby Atmos track that puts you as close to combat as you'll ever want to get – this equates to bullets ricocheting around the room and explosions seeming to rip through the walls.

The effective integration of the SPL-120 subwoofer finds these explosions hitting with plenty of delicious

SPECIFICATIONS

Klipsch Reference Premiere RP-6000F

DRIVE UNITS: 2 x 6.5in Cerametallic woofers; 1 x 1in Tractrix tweeter **ENCLOSURE:** Rear-ported **FREQUENCY RESPONSE (CLAIMED):** 34Hz-25kHz **SENSITIVITY (CLAIMED):** 97dB **POWER HANDLING (CLAIMED):** 125W **DIMENSIONS:** 237(w) x 1006(h) x 432(d)mm **WEIGHT:** 22.2kg

Klipsch Reference Premiere RP-404C

DRIVE UNITS: 4 x 4in Cerametallic woofers; 1 x 1in Tractrix tweeter **ENCLOSURE:** Ported **FREQUENCY RESPONSE (CLAIMED):** 59Hz-25kHz **SENSITIVITY (CLAIMED):** 97dB **POWER HANDLING (CLAIMED):** 125W **DIMENSIONS:** 660(w) x 144(h) x 330(d)mm **WEIGHT:** 12.7kg

Klipsch Reference Premiere RP-502S

DRIVE UNITS: 2 x 5.25in Cerametallic woofers; 2 x 1in Tractrix tweeters **ENCLOSURE:** Sealed **FREQUENCY RESPONSE (CLAIMED):** 58Hz-25kHz **SENSITIVITY (CLAIMED):** 95dB **POWER HANDLING (CLAIMED):** 100W **DIMENSIONS:** 302(w) x 352(h) x 190(d)mm **WEIGHT:** 7.3kg

Klipsch Reference Premiere SPL-120

DRIVE UNITS: 1 x 12in Cerametallic forward-firing woofer **ENCLOSURE:** Slot-ported **FREQUENCY RESPONSE (CLAIMED):** 24Hz-125Hz **ONBOARD POWER (CLAIMED):** 300W **REMOTE CONTROL:** No **DIMENSIONS:** 374(w) x 451(h) x 506(d)mm **WEIGHT:** 20.4kg **FEATURES:** LFE input; stereo phono input; volume, crossover and phase control; WA-2 wireless port; automatic standby

PARTNER WITH



BLACK HAWK DOWN: A brilliant movie treated with the care it deserves on 4K Blu-ray. Impressive HDR grading and a Dolby Atmos remix make it an AV showcase, while a wealth of bonus material resides on an additional Blu-ray disc. See p92.

low-end impact, but there's also a percussive thump to the large calibre machine gun-fire. The scene where the Little Bird helicopters strafe the buildings with a mini-gun was particularly brutal.

In fact, the Klipsch system loved everything about this soundmix, creating a convincingly, consistently immersive soundstage. Helicopters fly slickly through the room, shell casings tinkle to the ground, and the score is delivered with a pleasing musicality. The experience was visceral and thrilling. Which is what home cinema is all about.

Highs and lows

Klipsch has been around for the better part of a century, and while its proprietary horn technology might look dated... if it ain't broke don't fix it. Those decades of experience have culminated in a line of speakers that's wonderfully effective. The cabinets are unashamedly big and the performance has a boldness to match, but they also have a remarkable level of resolution and sensitivity. If you're looking for speakers that can deliver the highs and lows of a modern blockbuster without requiring a shed-load of power, this particular system makes perfect sense – and it's not insanely priced, either ■

HCC VERDICT



Klipsch Reference Premiere 5.1

→ £3,000 → www.klipsch.co.uk

WE SAY: This impressive system delivers a big and balanced performance combined with exceptional sensitivity, but visually the horn tweeters remain an acquired taste.

2. The RP-6000F doubles up on its 6.5in midbass drivers...

3. ...while around the back, there are twin binding posts for bi-amping/wiring

4. Klipsch's surround models aim for a wide dispersion via their dual angled baffles

AV INFO

PRODUCT:
4K UHD single-chip
DLP projector

POSITION:
Flagship model in
CinePrime series

PEERS:
Vivitek HK2288;
Optoma UHD65;
Epson EH-TW9400

Is BenQ's flagship DLP 4K PJ as accurate as the company claims, asks **Steve Withers?**

DLP reaches its 4K Prime

BenQ has made some bold boasts about its new CinePrime series of projectors, and especially the flagship W5700 reviewed here. As with the lower-cost W2700 [see *HCC* #299], it incorporates CinematicColor technology, but here the company claims it reaches 100 per cent of the wide colour gamut used by UHD Blu-rays, making it the first single-chip DLP 4K home projector to achieve the feat.

1. BenQ's remote is easy to use and offers all key controls

2. The projector's all-glass 11-element lens is optimised for 4K

BenQ is so confident of the W5700's ability to accurately deliver the video industry's colour standards of REC.709 and DCI-P3 that it even includes a verifying factory calibration report. I'll be taking my own measurements to check the veracity of BenQ's claims...

Spin the wheel

The W5700 uses the latest version of Texas Instruments' XPR (eXpanded Pixel Resolution) technology, which is backed up by a 245W lamp generating a decent 1,800 Lumens of brightness. There's also a six-segment RGBRGB colour wheel that generates all those extra colours while keeping rainbows to a minimum.

Naturally the W5700 supports HDR (HDR10 and broadcast HLG). However, it also includes BenQ's HDR-PRO technology for improved tone mapping, along with CinemaMaster Video+ processing.

It looks the part of a range-topping model, with an attractive matte-black finish suited to home cinema installations. Clever touches in the design include an anti-dust hood around the lens (although this only works when it's ceiling mounted), louvered air intakes to reject dust from the cooling system, and a patterned lens ring to minimise light leakage from the optical engine.

The latter is built around an 11-element all-glass lens array that's been optimised for 4K. The W5700's single-chip DLP design eliminates convergence issues, and when combined with this lens the pictures are incredibly sharp.

There's a plethora of connections at the rear, with two HDMI v2.0b inputs that are HDCP 2.2 compliant, and three USB ports. One can be used to power an HDMI streaming stick, and for that reason BenQ also includes an optical digital audio output and a 3.5mm

analogue jack, but given the home cinema aspirations there are no built-in speakers. Automation options include a 12V trigger for syncing with an electric screen.

You'll find some basic controls at the rear of the PJ, but it also ships with a matching, well-designed black remote. It has a backlight, essential for use in a dark home cinema.

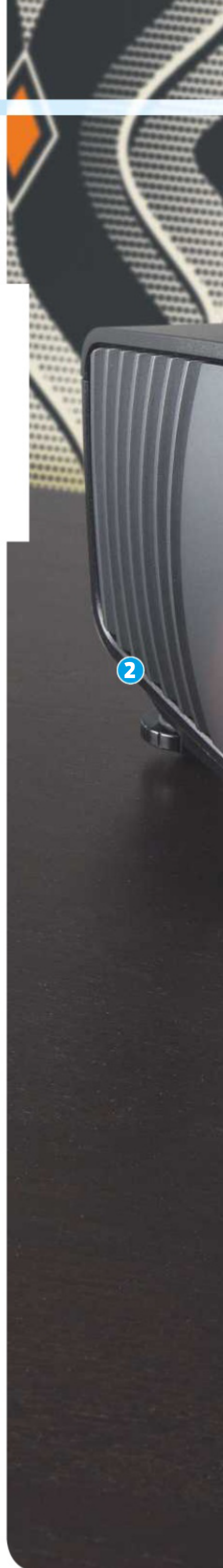
The W5700 has vertical and horizontal shift controls on the top, and rings around the lens for zoom and focus. These controls are extremely flexible thanks to a 1.6x zoom and a lens shift that can move 60 per cent either way vertically and 23 per cent horizontally. That kind of latitude should ensure easy installation in a dedicated room.

The lack of any motorised controls excludes the inclusion of a lens memory, making the use of a 'Scope ratio screen impractical – unless you fancy manually re-sizing the image every time you change aspect ratio.

Out of the box

The factory calibration report shows the model and individual serial number of the unit, and confirms compliance with D65 and 100 per cent of REC.709 and DCI-P3 to a deltaE (error) measurement of less than three (which is the visible threshold). This is important because video content is produced using the industry standards of D65 for white, and the REC.709 colour gamut for SDR and DCI-P3 for HDR. If the display matches these standards, then what you're watching is exactly what the creators want you to see.

Initial scepticism faded once I measured the W5700 producing white and colour measurements with errors that were all below three. The PJ also delivered 100 per cent of both REC.709 and DCI-P3, which is genuinely







impressive because in the past single-chip DLP machines have struggled to even hit 100 per cent of REC.709.

And the BenQ didn't just excel in terms of its accuracy; the overall picture is equally appealing. Watching *The Expanse* on Amazon Prime in 4K SDR reveals images that are often spectacular. The projector might not be native 4K, but its XPR trickery results in perceived 4K images that don't reveal any pixel structure, even when viewed up close.

An orbital assault exposes all the detail in the intricately rendered spaceships and station, while highlighting a DLP strength: smooth and judder-free motion. The sunlight reflecting off the ships' hulls is suitably bright and the blacks of space are deep enough to leave the dynamic iris off. The projector's adherence to REC.709 also ensures stable colours and excellent flesh tones.

BenQ's CinemaMaster Video+ processing suite offers controls for Colour Enhancer, Flesh Tone, 4K Pixel Enhancer and 4K Motion Enhancer. The first two seem redundant considering the colour accuracy, and the same goes for the last when you consider motion handling is a DLP strength. The 4K Pixel Enhancer is useful with lower-resolution content, but in general I left all these controls off.

The Expanse takes a realistic approach, and as a result colours are often muted. This is not the case when it comes to *Star Trek: Discovery*, 1080p on Netflix but also in HDR. In the penultimate episode of Season Two, Captain Pike walks on to the bridge of the *USS Enterprise*, and the classic 1960s set is presented in all its Technicolor glory.

Alone in the dark

At 1,800 Lumens the W5700 is hardly a light-cannon, but that shouldn't be an issue in a dedicated room. If you're thinking of a normal living space, the W2700 might prove a better choice. BenQ employs a colour filter to reach 100 per cent of DCI-P3, which unfortunately reduces the light output further, but that's a compromise you'll have to make if you want colour fidelity.

The W5700's tone mapping delivered some impressive pictures. For the best results you will need to engage the dynamic iris, which increases the brightness and deepens the blacks without noticeably pumping the image. The frequent lens flares in *Star Trek: Discovery* certainly exhibited a lovely specular pop.

The sequence in *Lucy* (UHD Blu-ray) where Scarlett Johansson escapes her captors includes some difficult mixed-contrast content that allows the W5700 to display its strengths and also a specific weakness. Close-ups of Johansson reveal every pore of her skin, and her blonde hair and artificially blue eyes look spectacular. As she shoots her way out of the factory the sparks in the background are delivered with a glowing intensity.

SPECIFICATIONS

3D: Yes. Active 3D (glasses optional) **4K:** Yes. 3,840 x 2,160 (Texas Instruments XPR) **HDR:** Yes. HDR10; HLG **CONNECTIONS:** 2 x HDMI inputs; optical digital audio output; 3.5mm audio output; RS-232; 12V trigger; Ethernet; IR-IN jack; USB 3.0 media reader; USB 2.0 media reader; powered USB 2.0 port **BRIGHTNESS (CLAIMED):** 1,800 Lumens **CONTRAST (CLAIMED):** 100,000:1 (dynamic) **ZOOM:** 1.6x **DIMENSIONS:** 492(w) x 168(h) x 349(d)mm **WEIGHT:** 6.5kg

FEATURES: Single-chip DLP system; lamp life rated at 4,000 hours (Normal); 10,000 hours (Eco), 8,000 hours (SmartEco); 1.36-2.18:1 throw; CinematicColor with 100 per cent DCI-P3 coverage; HDR-PRO tone mapping; CinemaMaster Video+ processing; ISF Day/Night presets; vertical and horizontal lens shift

PARTNER WITH



LUCY: Don't own this on 4K BD? Then you're missing out. Scarlett Johansson is perfect as the titular, chemically enhanced super-being going up against legions of goons in Luc Besson's frenetic sci-fi. HDR visuals and Atmos audio are first-rate.

However, even with the dynamic iris on, the darker corners of the factory lack shadow detail, and the blacks themselves are more a very dark grey. This is an inherent weakness of DLP but in a blacked-out home cinema, which is the projector's target environment, there's nowhere to hide and these limitations become more apparent.

While the tone mapping is effective, a film like *Overlord* on 4K disc pushes the projector's HDR capabilities to its limits. There's a sequence near the beginning, involving a landmine, that takes place in a darkly lit field. The greens and browns that dominate the colour scheme are wonderfully nuanced but the scene is often too dark, although using the HDR Brightness control can help.

At this point it's also worth mentioning this projector's other flaw: its operating noise. The actual fan isn't too loud at around 30dB, but there's also the sound of the colour wheel and the XPR feature, while the dynamic iris is annoyingly noisy too. There's a Silent mode that turns off XPR to make the projector quieter, but then you're simply looking at a 1080p image.

If you're a fan of 3D Blu-ray the W5700 is right up your street, with a total absence of crosstalk, smooth motion, and images that are detailed and accurate. Brightness takes a hit because of the spex, but the miniaturised mayhem of *Ant-Man* and *the Wasp* looks awesome, especially when the frame opens out for IMAX sequences.

Home cinema star

Overall, this is a superb UHD projector that boasts previously unobtainable colour coverage for a DLP display and a remarkable level of accuracy. Design and setup are home cinema-friendly. Brightness is somewhat limited but HDR performance remains impressive, and motion handling and 3D are both excellent. Audition one ■

3. HDR-PRO is the name of BenQ's bespoke tone mapping engine

HCC VERDICT



BenQ W5700
→ £2,600 → www.benq.eu

WE SAY: This high-end 4K DLP XPR projector delivers exceptional accuracy and awesome bigscreen images. The blacks could be better, but it's still amazing value.

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AV INFO**PRODUCT:**Premium stereo bar/
surround combi**POSITION:**The Pulse Soundbar
2i is Bluesound's sole
soundbar offering**PEERS:**Harman/Kardon
Enchant 1300;
Samsung HW-Q90R**1. The soundbar
stands tall, supported
by screw-in feet****2. Build quality and
styling impress**

Can some new functionality make this soundbar system win over **Mark Craven?**

Bluesound's 'bar evolves

Bluesound's Pulse Soundbar 2i looks – as far as I can tell – identical to the previous Pulse Soundbar. Once again it's more than a metre wide, with curved edges to its chassis to soften the blow of its sheer size. So we have a generational update rather than a total overhaul. But what's new here is certainly welcome.

So what is new? Most vitally, Bluesound has surveyed the surrounding AV landscape and realised that any soundbar with ease-of-use and premium performance ambitions should have HDMI connectivity – something unfortunately absent from the previous Pulse Soundbar. What you get with this 2i model still seems like a bit of a halfway house considering the £800 price tag. There's an HDMI ARC connection (with eARC support), but still no HDMI input for external sources. Of course, the logic goes that anyone adding a soundbar to a TV will already have had their sources running straight into the telly, so I will cut Bluesound some slack. But when approached the other way, treating the Pulse Soundbar 2i as a replacement for a cumbersome, wire-laden AV receiver setup, the lack of HDMI switching is a niggle.

Bluetooth (to v5.0 with send and receive functionality) and Wi-Fi (to dual-band) have been upgraded, too. And this is a soundbar very much targeted at music lovers. Via the excellent BluOS app (which also doubles as the 'bar's remote control – although it can respond to commands from your TV zapper), you have access to a plethora of streaming services, plus network stored libraries, and multiroom functionality with other Bluesound products.

A final notable upgrade is compatibility with Apple Airplay 2, which allows the Pulse Soundbar 2i to become part of a wider Apple multiroom system.

Three-way, two-channel

Beyond that, a lot remains the same, and not just the bold, big aesthetic. The driver configuration remains stereo, with no consideration of a dedicated centre channel. The left and right channels get a 0.75in tweeter, 2in midrange driver and a 4in woofer (bolstered by a passive radiator). Power is rated at 120W in total.

Those bass drivers enable Bluesound to claim a frequency response down to 55Hz (–3dB). The soundbar can also be partnered with Bluesound's wireless Pulse



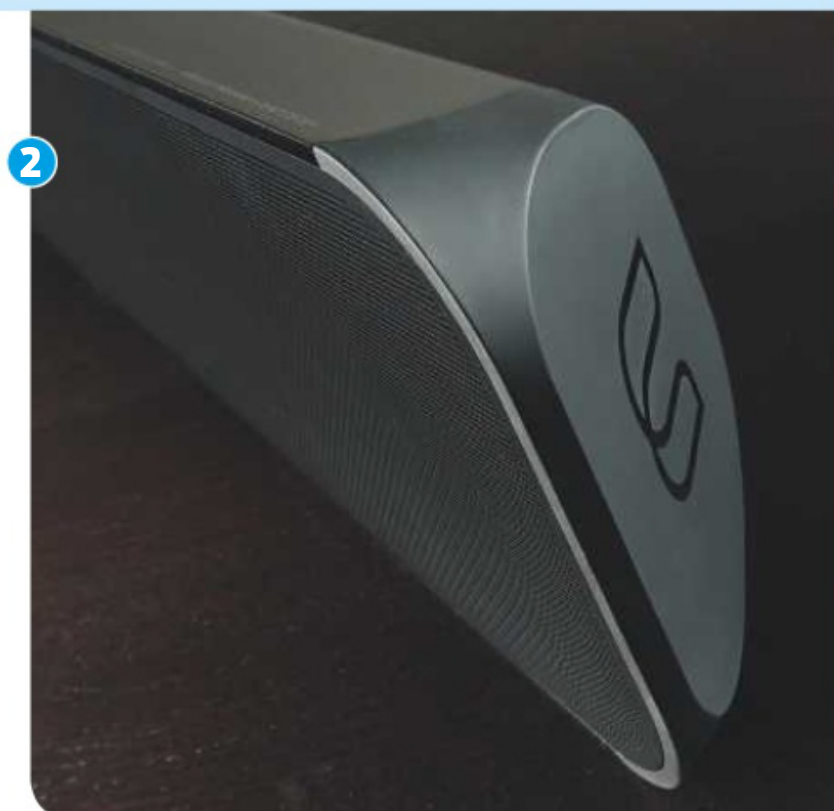
subwoofer, or a third-party model via its pre-out hookup. Add a pair of the brand's Pulse Flex 2i speakers (£300 each), as we have, and you can get surround sound.

A mark against the previous-generation Pulse Soundbar was its lack of DTS decoding, and handling of lossless formats. The same situation is repeated here. For a device that can tackle hi-res music including MQA, these omissions seem a little weird, particularly as competitor brands improve in this regard.

Plug, group, then play

Establishing a multichannel setup with the soundbar and Flex 2i speakers is done in the BluOS app by setting up all three devices and then combining them in a 'Home Theatre Group'. Note that you'll need to find plug sockets for the mains-powered Flex 2is.

Taking a PCM feed via my BD deck, I began in stereo with the opening sequence from *Mad Max: Fury Road*, as I wanted to get a sense of the Pulse Soundbar 2i's soundstaging. Yet before I even got to the ethereal, echoey voices, I was jolted from my sofa by the gargantuan weight and scale this soundbar gave to the film's score and Tom Hardy's gravelly voice. The actor's downbeat monologue was centrally placed, but sounded open and natural. Then the smattering of voices arrived ('It's the oil, stupid,' etc), and the soundbar reveals its ability to place effects left and



right with accuracy, and generate a sense of verticality. There's a fulsome, weighty and dynamic slant to its sonics that's instantly beguiling, and in this era of Dolby Atmos it's easy to forget how immersive a well-controlled stereo soundstage can be. Of course, it helps if the soundbar has the physical width to pull it off.

The BluOS app offers plenty of tweaking options. There are two sound expansion presets (Wide and



Wider), which, in my listening room, had a nicely subtle effect on the general image – not so much an obvious horizontal expansion but a slight fattening of the soundstage. Also impressive is Bluesound's Deep Bass mode (on/off). With this in play, there was a tangible boost to the soundbar's low-end delivery, without it becoming overblown.

In fact, in terms of bass, the 'bar has enough about it to make the addition of an external subwoofer probably an unnecessary luxury to all but the most committed

‘Stereo imaging is excellent, as is mid-range clarity. The Pulse 'bar has a healthy balance from bottom to top'

of movie fans. The rumbling engines of the ...*Fury Road* convoy, and the warm, punchy tones of the film's dramatic score, are well integrated, and go low enough so there's little sense of an obvious roll-off. And with *Welcome to My World* by Depeche Mode (via Tidal) it shows nuance too. This electro track builds from synthetic low-end notes that are here rich, deep and tight, adding upper bass effects on top that swell and seem to emerge from a wall of sound in front of you rather than the black (or gloss white if you want that option) speaker.

Dave Gahan's vocal, meanwhile, is dead centre and impressively detailed. Stereo imaging is excellent, as is mid-range clarity. The Pulse Soundbar 2i has a

SPECIFICATIONS

Pulse soundbar

DRIVE UNITS: 2 x 0.75in tweeters; 2 x 2in midrange drivers; 2 x 4in woofers
AMPLIFICATION (CLAIMED): 120W **CONNECTIONS:** Optical digital audio input; phono stereo analogue input; USB; Ethernet; sub output; HDMI ARC **DOLBY ATMOS/DTS:X**
MA: No/No (Dolby Digital 5.1; DTS 2.0) **SEPARATE SUBWOOFER:** No **REMOTE CONTROL:** No. Bluesound BluOS app instead **DIMENSIONS:** 1,073(w) x 141(h) x 70(d) mm **WEIGHT:** 6.8kg

FEATURES: Hi-res audio support (FLAC, WAV, AIFF, MQA); 4.1 surround (Dolby Digital) with Flex speakers; BluOS multiroom operating system; Bluetooth 5.0 aptX HD; transmit and receive Bluetooth functionality; dual-band Wi-Fi; Apple AirPlay 2; wall-mount option; kickstand feet; RM Cortex A9 1GHz processor

PARTNER WITH



BLUESOUND BP100: Bluesound's £70 optional battery pack turns the Pulse Flex 2i speakers into truly portable devices. The brand says you can expect usage of up to six hours before you'll need to recharge its AA batteries.

healthy balance from bottom to top, with treble elements undistorted.

In comparison to less accomplished (and less expensive) 'bars the feeling here is of a unified performance, rather than a collection of drivers in an enclosure battling against each other. The three-way driver implementation, and Bluesound's Direct Drive amplifier technology and DSP-managed crossover network, all play their part – as does its stereo form factor.

The Flex 2i speakers are the weak link in this £1,400 system. Impressive standalone multiroom models in their own right, there's additional functionality here (preset keys, a headphone output, physical inputs...) that lead to that £300 (each) asking price. Two together approaches the £800 cost of the 'bar itself, and it's arguable whether you get a commensurate boost in performance terms. They are still adept at cocooning you in a (4.0 channel) soundmix, though. *Jurassic World: Fallen Kingdom* (Sky Cinema) is awash with surround channel info and the Flex 2is manage to bring weight and good dispersion. When the Indoraptor and Blue scrap it out in Maisie's bedroom, dino tails lash through the soundfield. Then, as Owen and Maisie flee across the mansion rooftops in the rain, the orchestral score and cracks of thunder resonate in the surrounds. And the BluOS app makes it easy to boost the levels of the Flex 2is to tailor the multichannel effect.

Cohesive sound

The Pulse Soundbar 2i, neatly updated, is a fine performer with a forceful, bass-rich, largescale and cohesive sound. Combined with the streaming skills of the BluOS app, it's well worth investigating. But the cost of going multichannel doesn't quite add up considering the strong competition ■

3. Got Wi-Fi woes? All Bluesound products include LAN ports too



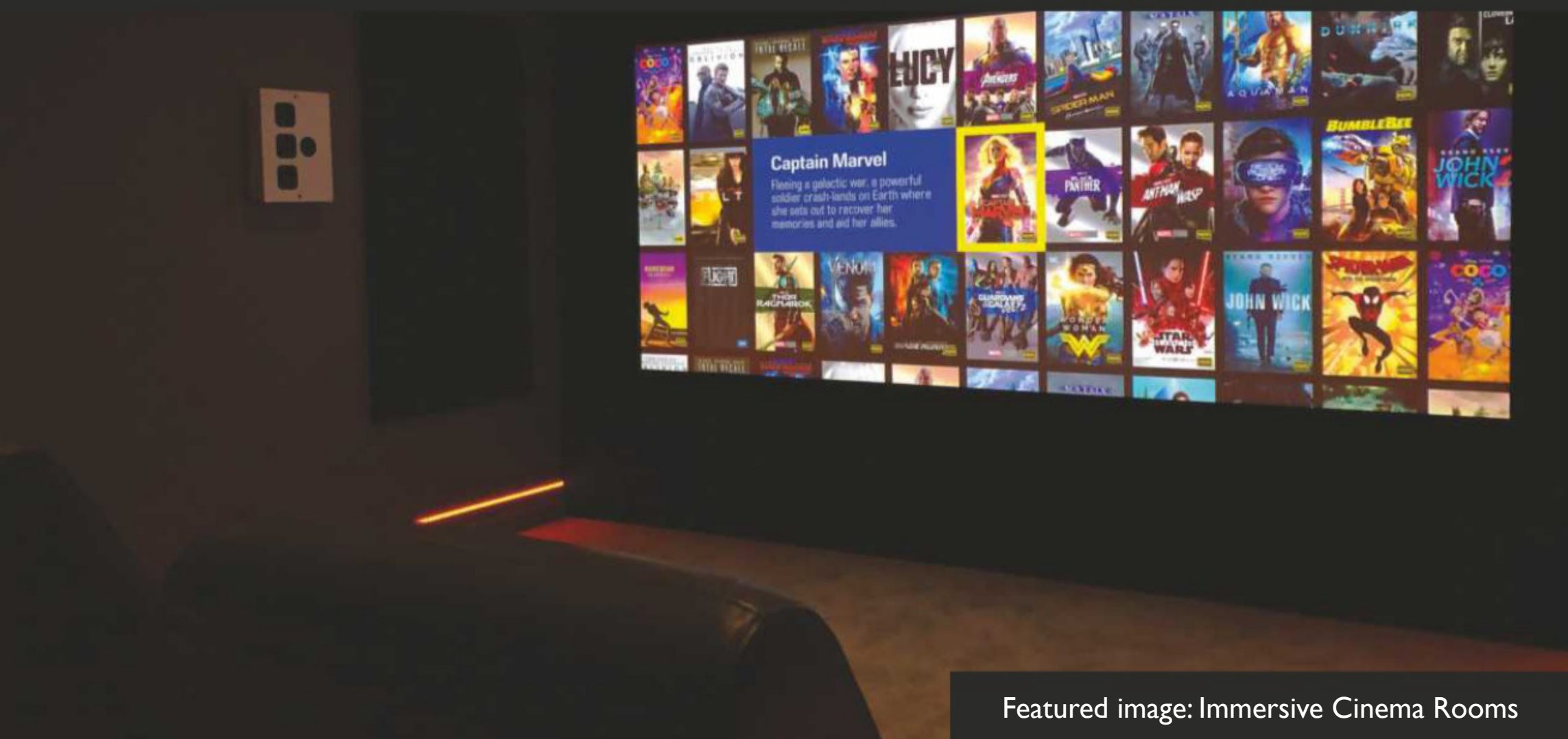
HCC VERDICT ★★★★★

Bluesound Pulse 2i/Pulse Flex 2i
→ £1,400 → www.bluesound.com

WE SAY: HDMI ARC is a welcome addition to Bluesound's purposeful soundbar – and it sounds great with both movies and music. Cost of entry to multichannel is steep, however.

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Featured image: Immersive Cinema Rooms

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AV INFO**PRODUCT:**
4K HDR short-throw
LED projector**POSITION:**
The cheaper of two
ViewSonic X Series
models**PEERS:**
BenQ W1720;
Optoma UHD300X**1. Below the lens
panel is a Harman/
Kardon-designed
sound system****2. The connections
cover matches the
leather carry handle****Steve May** vows to take this 4K
beamer with him wherever he goes

Projection by design

It's a sad fact of life that many video projectors look unspeakably dull – boxy and bland and still with one eye on the corporate presentation market. The ViewSonic X10-4K bucks that trend. With this new X Series mid-ranger, the company has shaken off years of dowdy design and created a projector that wouldn't look out of place in the swankiest of pads. It almost verges on being fashionable.

A short-throw model, this stubby star can be parked just metres from a wall or (less likely) a screen, for instant bigscreen gratification. Whether intended for movies, sports or a kid's birthday party, the X10-4K looks to be the ideal everyday projection solution.

Most obviously, it's designed to be portable. A carry handle makes its 2kg bulk easy to tote from room to room. Inputs are hidden behind a smart magnetic leather cover.

An integrated Harman/Kardon sound system looks much like a diddy soundbar, positioned beneath the centred lens, which incidentally sits behind a clear pane so there's no need to worry about dust clogging the optics.

When it comes to cosmetics, the X10-4K is undoubtedly excellent. But is its AV performance just as creditable?

All bases covered

Connectivity is good. Behind that leather flap you'll find two HDMI v2.0 inputs, plus a USB-C for video playback from compatible smart phones, a microSD card slot, 3.5mm audio minijacks, and a digital optical audio out. There are two further USB connectors for media reading, one of which is a fast 3.0 port.

There's also a slot for a Wi-Fi dongle (supplied) to support the Ethernet option. Being a trendy young thing, the X10-4K can be integrated with Google Assistant and Amazon Alexa, although I've yet to be convinced of the need for any voice control on a projector. And if you want to stream audio direct from your smartphone to that Harman/Kardon speaker, there's Bluetooth too.

Given that the X10-4K eschews conventional projector design, there's no button-acne atop the chassis, just a simple volume dial. The IR remote control is tentatively backlit (you'll just about find the keys in a darkened room), and distinguished by a multi-function rotary wheel. This dial is novel, but not particularly responsive,

particularly when it comes to volume control, often reacting seconds after you've spun it one way or the other.

One reason the X10-4K is so compact is that it doesn't use a conventional lamp, instead there's an LED light module inside. With an anticipated lifespan of 30,000 hours, it promises to be essentially maintenance-free.

The ethos behind the X10-4K is unashamedly plug-and-play. An AF mode keeps the image tightly focused, but you can always manually adjust the picture using the rotary wheel on the remote control if you feel it needs help.

Ideal for impromptu screening sessions, you need just 1.77 metres to cast an impressive 100in image (with no zoom, the throw ratio is fixed at 0.8:1). Setting up on a coffee table shouldn't present any issues, and if you can't get it square on, the projector offers manual horizontal and auto vertical keystone correction.

It's a good deal friendlier than the average office equipment escapee too. Running on an Android OS, the PJ offers a smart, graphical UI. It also runs apps from the



1

2



Aptoid store. Vaguely familiar, like those knock-off sweets seen in Lidl, Aptoid is a less enticing alternative to Google Play, with a choice that's esoteric. The best on offer are BBC iPlayer, Netflix and Twitch. Rather than faff around, it makes more sense to use an Amazon Fire TV dongle.

LED it be

The obvious concern with any projector that uses an LED light source is brightness. But the ViewSonic is quick to

dispel fears of dullness. It's claimed 2,400 Lumens output allows viewing in rooms with some ambient light, although obviously a fully dark room works best.

The X10-4K uses a DLP 4K Ultra HD chip with XPR technology, able to present an 8.3million pixel resolution image by flipping its DMD mirrors at lightning speed. It's not native 4K, but able to offer better-than-HD image quality.

Fired up and aligned, my advice would be to head to the projector's Movie setting. While the average picture level is ➤

brighter in ViewSonic's TV mode (there are also Brightest, Game and User options), this cinematic preset tends to give a more pleasing image.

The X10-4K, unlike the BenQ W5700 (see p48), is limited to a REC.709 colour space, but it doesn't disappoint when it comes to saturation and punch, looking particularly good with animation. *Despicable Me 3* (Ultra HD Blu-ray) provides a veritable feast of eye-candy, with Minions realistically yellow.

The projector is also HDR compatible, although the usual caveats apply, which is to say, no projector offers a genuine HDR viewing experience. The best I normally hope

'This portable projector is enormous fun when it comes to popcorn movie nights and sporting fixtures'

for is that the overall picture level isn't adversely dimmed, and in this regard the ViewSonic fares well. Although if you prefer, you can always manually override the HDR mode, switching to SDR in the Advanced picture menu.

Inevitably, there are limitations to this cute model's performance. Deep black is elusive, leaving letterbox bars presented dark grey and proving a challenge with darker movies like *Resident Evil: The Final Chapter* (UHD Blu-ray). However, there's still an efficient contrast to its images, particularly with 4K SDR content, as evidenced by *Sense8* (Netflix).

I also noted some banding when it comes to gradations, while bright highlights can wash-out completely. But this isn't a form-factor for performance hounds.

Fine detail reproduction is excellent, given the constraints of XPR. When Alice (Milla Jovovich) discovers her friend's helicopter on the beach at Arcadia in ...*The Final Chapter*, the amount of information on show in the cockpit is delicious. There's granular texture in the sand on the surrounding beach too. With high-quality sources, the X10-4K impresses.

If you're primarily interested in sports, image-smoothing frame interpolation is available, variable between Off, Low, Mid and High. I wouldn't recommend it for movies, however, finding its effect too noticeable.

Normally I'd advise against using the in-built sound system on a projector for anything other than casual non-critical use. But the Harman/Kardon speaker on this ViewSonic is in a different league; it's actually by far the best I've heard on a projector. Despite the small cabinet size, it exhibits admirable grunt, and I'd even consider watching regular TV with it, and that's saying something. There are two audio modes available, Movie and User; the latter allows you to twiddle with an equaliser, but the default Movie mode is pretty darn good.

Fan noise is a concern though, and doesn't significantly change whether you opt for an Eco LED setting or not.

Fresh and exciting

It's probably too optimistic to believe that the X10-4K might have mainstream appeal. Home projection is always going to be something of a

SPECIFICATIONS

3D: Yes. Glasses optional **4K:** Yes. 2160p **HDR:** Yes. HDR10 **CONNECTIONS:** 2 x HDMI inputs; digital optical audio output; 3.5mm stereo minijack input; 3.5mm stereo minijack output; 2 x USB (media readers); 1 x USB-C; Ethernet; microSD card slot **BRIGHTNESS (CLAIMED):** 2,400 Lumens **CONTRAST (CLAIMED):** 3,000,000:1 **ZOOM:** N/A **DIMENSIONS:** 261(w) x 166(h) x 271(d)mm **WEIGHT:** 2kg

FEATURES: Single-chip DLP XPR projector; built-in Harman/Kardon audio; LED illumination with 'lamp life' rated at 30,000 hours; 26dB claimed fan noise; 0.8:1 throw ratio; image interpolation; compatible with Google Assistant and Amazon Alexa; carry handle; leather connections cover; Wi-Fi (via supplied dongle); Bluetooth; auto focus; auto keystone correction

PARTNER WITH



PANASONIC DP-UB450: New this year from Panasonic is a £200 Ultra HD deck with HDR10+ and Dolby Vision compatibility. The half-width form factor should make it easy to find a home for. Twin HDMI outs let you send audio to another device.

niche, but ViewSonic has certainly come up with a product that's fresh and exciting.

While it doesn't offer the ultimate visual performance, suffering most obviously from a lack of black-level prowess, this portable is enormous fun when it comes to popcorn movie nights and sporting fixtures. Get it out when you need it, pop it away when you're finished.

We've seen brands attempt to make projection a lifestyle choice before. Philips' all-in-one Screeneo springs to mind, but this is arguably the most convincing lifestyle proposition yet.

Image quality is fine for the price point, the sound system is definitely top of the pops, and the overall design is class-leading. It certainly has the X factor ■

3. From 4K player to smart device, the X10-4K has plenty of connective talents

HCC VERDICT



ViewSonic X10-4K

→ £1,300 → www.viewsonic.com

WE SAY: Elegant and well specified, this 4K short-throw style icon is a portable projector worth lusting over. Good UHD image quality and outstanding integrated sound make it a tempter.



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Atmos without the cable clutter

The HW-Q70R decodes object-based audio into a 3.1.2-channel soundstage. Will total immersion addict **Richard Stevenson** be left wanting more?

SAMSUNG'S ACOUSTIC BEAM technology has been squeezed into some slimmer, sleeker-looking soundbars in this year's lineup. The HW-Q70R sits in the middle of the range, with a fair bit of technology ported over from last year's HW-N850, including bringing Dolby Atmos and DTS:X decoding to the feature list. There's no doubt hope it will have big appeal to gamers as well as movie fans, as these next-gen formats gain traction in both camps.

The package is a seven-driver soundbar and wireless subwoofer, giving 3.1.2 surround sound. The Acoustic Beam tech, essentially a tuned resonating tube, helps to direct surround sound outwards to the sides and upwards from the top of the bar. These signals reflect from your walls and ceiling, creating an immersive effect at the listening position, aided and abetted by psycho-acoustic research at Samsung's Californian Audio Lab. It's Atmos 'lite' in that respect, and those looking for a full-fat object-based audio experience should seek out the more premium HW-Q90R with its wireless rear speakers.

Slender soundbar

At under 6cm tall the soundbar is unlikely to be a problem fitting under most TVs, and you get wall-mounting hardware in the box. Samsung's familiar three-letter scrolling display sits to the right side of the 'bar and, in my opinion at least, could still do with a few more characters to save scrolling the name of inputs as short as HDMI and Wi-Fi. Four buttons on the right end-cap give power,

volume control and the ability to shuttle through sources in case you lose the remote. That item remains Samsung's familiar slim format design with rocker buttons and jog dial.

A recessed connection panel offers side-mount plugs to stop cables sticking out and pushing the bar away from the wall. Yet this area is a bit on the sparse side, as you only get one HDMI 4K/HDR-compatible input – at least the HDMI output, after a firmware update, will support eARC.

The only other physical input is optical digital audio, but the 'bar also supports Wi-Fi direct, ideal for wireless connection to Samsung TVs, and Bluetooth.

You might have guessed that the HW-Q70R is an ideal match for this year's Q70 QLED TVs, but its low-profile design and minimalist looks means it should mix and match with a wide variety of TV brands/sizes.

The supplied subwoofer has been beefed up from last year, packing an 8in side-firing driver into a sturdy, ported cabinet. With the sub fascia pointing into the room the driver is on the right side, but the connection panel is neatly recessed if you wanted to place the unit side-up against a wall. Wireless pairing to the 'bar is a simple button press and a blue LED indicates everything is hooked up.

Basic controls for sub-level can be negotiated from the remote control, but Samsung's SmartThings app brings a whole raft of extra features, including seven-band manual equaliser, music services, a sleep timer and setup for Amazon Alexa voice control, albeit via an additional Echo device.

AV INFO

PRODUCT:
3.1.2-channel
soundbar/
subwoofer system

POSITION:
Middle of Samsung's
2019 range

PEERS:
Harman/Kardon
Enchant 800;
LG SL9YG



Setup is fairly straightforward. You get level trims for woofer, left, right and up, plus Samsung offers out-of-the-box DSP modes covering Standard, Surround and Game Pro. But by far the most interesting is Adaptive Sound. This dynamically adjusts the EQ in real time based on the content being played. Largescale music gets a bigger, bolder EQ sound while movie dialogue enjoys a minor enhancement on the centre channel to boost intelligibility. It's subtle but it works, and does so without any part of the mix becoming obviously tweaked or fatiguing.

Buddy, you're a boy, make a big noise

Samsung has been on a roll with its audio products generally since the inception of the Audio Lab and acquisition of Harman, and the Q70R continues the trend with aplomb. It has a wonderfully robust and un-soundbar-like sound, particularly if you can get it up and off heavy AV furniture. An acre of cabinet top in front of the soundbar muted the bar's spacious nature, so I lifted the Q70R up. Even on two makeshift stacks of books it brought a boost in liveliness and dispersion, so getting this model on the wall tight below a screen would probably be ideal.

It goes loud too, giving *Bohemian Rhapsody* (UHD Blu-ray) the full Live Aid experience with great scale and ambience. *We Will Rock You* is crafted in all its full foot-stomping, fist-pounding glory with the subwoofer working well to generate concert-level bass. Samsung's clever Adaptive Sound feature impresses here too, adapting the balance as the volume increases to ensure everything remains sweet and undistorted at high volumes.

On subtler films the surround sound effect is just that, an effect. It's a good one, but you can't get away from the fact that all the drivers are essentially in the same place and no amount of beaming, angling and bouncing is going to pin-point a Foley clunk somewhere deep behind the sofa.

The wonderfully crisp and detailed Dolby Atmos mix on *Baby Driver* (Blu-ray) comes across with plenty of space and air, with many of the scenes punctuated by music tracks or cues that boost the movie's slightly surreal ambience. Kevin Spacey's dialogue is locked hard to the



SPECIFICATIONS

DRIVE UNITS: 5 x midbass drivers; 2 x tweeters **ONBOARD POWER (CLAIMED):** 170W (5 x 30W; 2 x 10W) **CONNECTIONS:** HDMI input; HDMI ARC output; digital optical audio input **DOLBY ATMOS/DTS:X:** Yes/Yes **SEPARATE SUBWOOFER:** Yes. 8in/160W (claimed) **REMOTE CONTROL:** Yes **DIMENSIONS:** 1,100(w) x 59(h) x 100(d)mm (soundbar); 205(w) x 403(h) x 403(d)mm (subwoofer) **WEIGHT:** 3.6kg (soundbar); 9.8kg (subwoofer)

FEATURES: 3.1.2 soundstage; Wi-Fi; Bluetooth; wireless subwoofer hookup; Acoustic Beam tuning; 4K HDR passthrough; eARC; Adaptive Sound; Wi-Fi TV link; SmartThings app control; Works with Alexa; wall-mountable

PARTNER WITH



SAMSUNG QE55Q70R: The soundbar's TV partner in crime is this £1,500 55in QLED from Samsung – a mid-tier 4K HDR display with direct LED illumination and HDR10+ support. Use HDMI ARC to output Atmos audio to the HW-Q70R.

screen while the music meshes sweetly with the action. It becomes very easy to just slip into the movie, without pausing to wonder how the 'bar is presenting the mix or to fiddle with EQ.

Baby Driver's chase scenes are packed with roaring engines and squealing tyres. The Samsung takes these dynamic moments in its stride, while delineating the synced music to drive the narrative with gusto. Most of the sound naturally remains up the front of the room, but there is enough bouncing off the walls and ceiling to amplify the soundstage well beyond the confines of the 'bar's svelte dimensions.

The extent to which that works is somewhat dependent on your environment, of course. With the flat plasterboard ceiling and painted parallel walls perpendicular to my screen, the HW-Q70R arguably had the best of architecture with which to work its magic. I suspect those with lofty vaulted ceilings or a penchant for soft wall décor (it's a thing, apparently) might be left a little wanting in the surround part of the Samsung's sound.

Smart, well-featured

In pure design and audio performance the HW-Q70R is a five-star performer. The caveat is its rather limited connection suite and the rather serious price tag. £800 buys you a lot of AV these days, including a budget AVR and a solid 5.1 speaker package. If you have the space, inclination and permission for that more traditional setup, then it will deliver bigger scale and more effective surround sound. But most will be sold on the smart, well-featured HW-Q70R and its potent sub ■

1. The 'bar has twin upfiring units, plus LCR channels

2. Controls are located on the right end, rather than on top

3. The wireless sub features a side-firing 8in woofer

HCC VERDICT



Samsung HW-Q70R

→ £800 → www.samsung.com

WE SAY: Samsung's sleek Acoustic Beam soundbar comes with Atmos chops and a killer subwoofer for impressively dynamic and involving surround sound. More HDMI inputs would be nice.



The design of Elipson's latest range allows it to be concealed in-wall, but **Ed Selley** thinks its talents are easy to spot

Infinity and beyond

When making a 'perfect' home cinema system, drivers across each channel should be identical, the crossover to the sub should be as low as possible (or the speakers so capable there's no need for one at all) and bass extension should be on axis with the LCR speakers.

Well, that's the ideal anyway, and all these are tricky but not impossible. The last one is a bit of a head scratcher though. Ideally, dialogue shouldn't simply be on-axis with

your screen, it should emerge from it. The speakers you see here are a potential solution.

Manufacturer Elipson has been busy in recent years, firstly adding the Facet range of speakers (see *HCC* #291) before looking toward the custom installation market. Its new Infinite lineup takes the company further into high-end territory and lets it make a play at pro cinemas at the same time.

Three models in the four-strong range are designed to be placed in a wall cavity, or on a wall. This comes in handy when considering a typical room may comprise both



cavity walls that will happily accept such a speaker, and supporting walls which won't. Rather than supply an optional back box, Elipson has designed the Infinite range with a cabinet that allows you to choose freely between the two states.

There are two traditional speakers in the range; the Infinite 8 and Infinite 14 are passive designs for use in the LCR, surround and height channels. These are joined by the Infinite S12 to handle LFE.

The Infinite 8 and 14 both use the same driver design. The tweeter is a 1in silk dome wrapped in a ring to aid dispersion. This is joined by a 6.5in midbass driver – one in the Infinite 8 and two in the Infinite 14 – made from a Rohacell and Carbon Fibre sandwich intended to be stiff, strong and light. Both speakers have a roll-off point (75Hz or 60Hz) that allows for any subwoofer to be operating in a comfort zone below the point of real directionality.

If the Infinite 8 and 14 are recognisably derived from conventional speakers, the S12 is more interesting. Instead of the usual practise of combining the amplifier and bass driver in the same cabinet, it's a passive design. This is partly because getting mains to a device in the wall is not completely straightforward, and servicing it in the future could also be difficult. As such, the S12 consists of

a hefty 12in woofer with Neodymium motor components in a front-ported chassis less than 30cm deep.

To provide the required oomph, the last member of the Infinite series is not a speaker but an amplifier. The A1000 has been custom designed for the task and deploys 1,000W, into four ohms, via DSP control so you shouldn't struggle to drive a S12 to any level that takes your fancy. It's a stereo amp too, so .2 installations are possible.

You can combine any combination of Infinite 8 and 14 with S12s (the models are all sold individually) either on-wall, in-wall or in-ceiling. Neither is this a theoretical benefit either, as the satin finish on the speakers and the inclusion of a grille is enough to ensure that having them in sight is not going to be offensive. Yes, they're big and black, but they have a sense of style.

As it wasn't practical to test a system in a domestic situation, I journeyed to AV retailer Musical Images in Beckenham, Kent, where a 7.2.4 Infinite system has been installed. It features Infinite 14s across the LCR channels, supported by two S12s. Infinite 8s are then used in the rear and height channels, all being driven by a Denon AVC-X6500. Courtesy of a JVC projector and projector screen, the front speakers (and woofers) are mounted on-axis with the image you see.

Distinction and definition

It's hard to overstate what a difference this makes to the way the Elipson system generates a soundfield. The final showdown on the Bifrost in *Thor: Ragnarok* (4K Blu-ray) retains the sense of overblown intensity that sums up the whole movie, but here there is distinction and definition that can so easily be lost in the mass of action. Dialogue isn't simply on-axis with the screen, it is perfectly locked to it, and after a few minutes something pretty special happens. When reviewing something, it's necessary to keep a focus on the item you're actually supposed to be writing about. More than almost any other speaker package I've listened to recently, the Infinities make this almost impossible.

Simply put, with the placement advantage they enjoy, the speakers become part of the performance in a manner that even hugely talented rivals struggle to get near. The more believable the content onscreen, the more compelling this effect becomes. The bombing of the hospital ship in *Dunkirk* (4K Blu-ray) is at once enormously and effortlessly visceral and incredibly

AV INFO

PRODUCT:
In-wall/on-wall speaker system

POSITION:
Elipson's premium home theatre proposition

PEERS:
ATC HTS Series; Artcoustic SL Series

1. Elipson's 12in subwoofer is passive – the brand sells the separate A1000 power amplifier

2. Behind the screen at Musical Images' AV demo room

2





3

delicate. The impact of dropping bombs is felt as much as heard, and the split amplification and power arrangement of the S12 and A1000 has no effect on the ability of this array to sound absolutely devastating.

It's about far more than brute force, though. As the ship begins to sink, the sound of water entering the hull, the cries of the soldiers and half-a-hundred other details combine in a manner that is utterly believable, and the bleak open space of the harbour is something that extends far beyond the confines of the listening room.

Part of this comes about through the relatively healthy sensitivity of the Infinite speakers (91dB in the case of the Infinite 14). The Denon receiver never has to reach outside its comfort zone to achieve a room-filling level of sound. This isn't to say these in-wall/on-walls won't benefit from decent amplification – speakers as naturally revealing as these will always tell you what is happening further up the chain – but the AVC-X6500 isn't a premium model either.

Strange to relate, for a set of speakers that have the headroom that these do, it isn't monster-scale material that shows off their greatest strengths but more claustrophobic scenes. It would be wrong to describe the Gemini launch in *First Man* (4K Blu-ray) as a 'small scale' scene as very little about orbit-capable rockets is compact. What the Elipsons do with incredible effectiveness is bring the terrifyingly constrictive nature of the capsule to life. It becomes a horrifying symphony of mechanical noise, vibration and terror in a way that conveys the risks and dangers of early space flight. Once again, the simple expedient of having the speakers behind the screen and part of the room is enough to integrate them into the overall viewing experience in a way that conventional cabinets will struggle to do.

This unobtrusive ability is often best shown by simpler material than it is more bombastic fare. The meeting and fight between K and Sapper Morton in *Blade Runner 2049*

SPECIFICATIONS

Elipson Infinite 14

DRIVE UNITS: 2 x 6.5in Rohacell midbass drivers; 1 x 1in soft dome tweeter
ENCLOSURE: Sealed, in-wall/on-wall **FREQUENCY RESPONSE (CLAIMED):** 60Hz-30kHz
SENSITIVITY (CLAIMED): 91dB **POWER HANDLING (CLAIMED):** 150W **DIMENSIONS:** 360(w) x 950(h) x 138(d)mm **WEIGHT:** 18kg

Elipson Infinite 8

DRIVE UNITS: 1 x 6.5in Rohacell midbass driver; 1 x 1in soft dome tweeter
ENCLOSURE: Sealed, in-wall/on-wall **FREQUENCY RESPONSE (CLAIMED):** 75Hz-30kHz
SENSITIVITY (CLAIMED): 88dB **POWER HANDLING (CLAIMED):** 100W **DIMENSIONS:** 330(w) x 440(h) x 138(d)mm **WEIGHT:** 10kg

Elipson Infinite S12 (subwoofer)

DRIVE UNITS: 1 x 12in doped paper woofer **ENCLOSURE:** Front dual-ported
FREQUENCY RESPONSE (CLAIMED): 28Hz-100Hz **SENSITIVITY (CLAIMED):** 92dB
POWER HANDLING (CLAIMED): 500W **DIMENSIONS:** 450(w) x 950(h) x 273(d)mm
WEIGHT: 33.5kg

Elipson Infinite A1000 (subwoofer amplifier)

ONBOARD POWER (CLAIMED): 1,000W Class D (into 4 ohms) **CONNECTIONS:** 1 x XLR stereo input; high-level input; high-level output; stereo phono input; stereo phono output; IR port; 12V trigger **DIMENSIONS:** 425(w) x 89(h) x 368(d)mm
WEIGHT: 12.5kg **FEATURES:** Adjustable phase and crossover; eight-band equalizer; auto standby mode

PARTNER WITH



BRYSTON SP4: Treat this high-end speaker system to high-end processing. Bryston's £14,500 SP4 caters to 16-channel (9.1.6) systems – with Auro-3D, Dolby Atmos and DTS:X support – via balanced XLR outputs.

(4K Blu-ray) is superbly handled. The dynamic spikes in level are ruthlessly presented, and having the same driver and tweeter combination in every channel means the handover between the enclosures is wonderfully smooth and controlled. It's a real wall of sound, capable of delicacy and drama, excellent detail and imaging. You become aware that the bubbling of the pot on the stove is present throughout their entire dialogue, and little notes like this lift the visuals still further.

Performance potential

It would be foolish to pretend that Elipson's range is a one-size-fits-all solution to how you go about constructing an AV system. They aren't 'affordable' when considered as boxes on their own (£900 each for the Infinite 8, £1,550 each for the Infinite 14 and Infinite S12, and £1,350 for the A1000 amp) and to achieve the invisible results that Musical Images has, more investment is needed in installation. Yet by ensuring they can also be used on-wall, Elipson has increased flexibility and decreased potential costs. That they've done this while hitting reference-level performance for the price point is something to celebrate ■

HCC VERDICT



Elipson Infinite Series 7.2.4

→ £17,500 → www.elipson.com/gb

WE SAY: An outstandingly cinematic set of installation speakers that delivers spellbinding performance across a huge range of material.

3. A 112mm mounting depth is needed for in-wall installation of the Infinite 14 and 8

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Smart upgrade

Manhattan's slick UHD-ready Freeview Play streamer is a chord cutter's delight, says **Steve May**



With no HDD, the T3 is brilliantly quiet in operation

THE MANHATTAN T3 is a 4K-enabled Freeview Play TV box for the streaming era. What sets it apart from Freeview set-top boxes of yore is that there's no hard drive onboard. This isn't a PVR in the millennial sense; it doesn't want to record.

Designed for viewers who value ease-of-use and convenience, it instead offers a full fist of Freeview Play catch-up TV services including the BBC iPlayer, ITV Hub, All4, UKTV Play and Demand 5, plus CBS CatchUp, Horror Bites, the BBC's news and sport apps and YouTube.

Setup and tuning emulates that found on a Freeview Play TV. Linear TV channels are accessed via the familiar Freeview Play guide, while its roll-back seven-day EPG provides

an intuitive way to browse shows you may have missed. The Freeview channel bouquet currently comprises 85 channels, all subscription-free, of which 15 are available in hi-def.

Finished in gloss black, this curvy British-designed box has a remarkably

small footprint, about as wide as the IR (learning) remote control it comes with. It looks rather dishy. There's no front-panel display – just a status light – but it doesn't really need one.

Rear connections comprise terrestrial aerial loop-through, a single HDMI output (HDCP 2.2-enabled), digital optical audio output and USB (for software updates, but sadly not media playback).

In addition to Wi-Fi, there's Ethernet if you want to hardwire a network connection.

4K output

Leave the T3 on Auto and it'll display the highest resolution that your TV is capable of, up to 2160p. Freeview content is upscaled. Remember to ensure your chosen HDMI TV port is enabled for full-spec UHD Deep Colour (initially I didn't) or the 4K output could be limited to 25Hz, which results in stutter and judder.

The specification also embraces HDR10 and HLG HDR. You won't find these on standard Freeview transmissions, but crucially the BBC iPlayer app is compatible with 4K HDR trials.

The box also delivers 4K from YouTube. Helpfully, a Matched Frame Rate mode enables it to display various frame rates from the streaming video service, including 24-,

SPECIFICATIONS

HDD: No **TUNER:** Yes. Single Freeview Play tuner **CONNECTIONS:** HDMI output; optical digital audio output; Ethernet; aerial input and loopthrough; USB (service)

DIMENSIONS: 210(w) x 46(h) x 188(d)mm

WEIGHT: 368g

FEATURES: Integrated Wi-Fi; Freeview Play TV catch-up apps (BBC iPlayer, ITV Hub, All4, Demand 5, UKTV Play, CBS CatchUp, Horror Bites, BBC News, BBC Sport); YouTube 4K; HDCP 2.2-enabled HDMI 2.0; Watchlist functionality; Smart Search functionality; Dolby Digital Plus

30- and 60 frames per second. This avoids any unwanted stuttering caused by a hard conversion to 50Hz.

Usability is excellent. The box is quick to navigate and quick to respond, thanks to a quad-core processor. A dedicated Freeview Play button on the zapper opens up a dashboard for easy access to live TV, catch-up channels and OTT. The EPG may be standard fare, but the Smart Search function is rapid, offering instant intuitive results (although there's no voice support).

One additional trick, which we've not seen on Freeview Play TVs, is the option to build a content Watchlist aggregated from on-demand players, via the Featured menu. This is surprisingly helpful.

Picture performance is as you would expect. Low-res standard-definition Freeview channels are a challenge on larger screens, HD is crisp and 4K content streamed from YouTube quite spectacular. Audio output is Dolby Digital Plus.

One perhaps unsung benefit of having no hard drive in the box itself is that it's blissfully silent in operation. If you've grown used to the relentless chugging and churning of your PVR HDD, this will come as a blessed relief.

Terrific value

If you enjoy a fast, robust network connection the need for a hard drive recorder is not what it once was, and this streaming media box is an excellent alternative. The combo of live Freeview channels and on-demand works well. It would, of course, be nice to add Netflix and Amazon Prime video to the mix, but Manhattan is teasing with the promise of feature and service updates in the future, so we're keeping our fingers crossed. As it stands though, the T3 is terrific value ■

AV INFO

PRODUCT:

Freeview Play streaming set-top box with 4K output

POSITION:

Sibling model to Manhattan's T2-R Freeview PVR

PEERS:

Amazon Fire TV 4K; Netgem NetBox

HCC VERDICT



Manhattan T3 Freeview Play 4K

→ £80 → Manhattan-tv.com

WE SAY: If you think PVRs are passé, then this 4K-ready Freeview Play receiver/VOD streamer is a great alternative. Low-cost, top-notch.



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Pixel punch

Samsung's second generation of 8K TVs is already here – and **John Archer** couldn't be happier

The styling of this 82in TV is deliberately minimalist



WITH 4K TVs and content still finding their mainstream feet, you might think Samsung is optimistic by already launching 8K models. Yet its debut Q900R 8K TVs proved to be spectacularly good, and the brand's second-gen sets are even better.

The new 82in QE82Q950R improves on the Q900R specifications in four key ways. First, it gets the same impressive wide viewing angle technology first introduced on Samsung's Q90R 4K range. Second, it carries improved

video processing, using the latest AI-based 4K upscaler chip found in the Q90Rs for the first half of its two-step 8K upscaling process.

The TV's external connections box now carries an HDMI 2.1 port (alongside three HDMI 2.0 ports) to support 60Hz 8K feeds from external

sources. And, finally, the screen carries a improved black filter, which does a remarkable job of soaking up ambient light and reflections.

The TV features a direct lighting system with local dimming across 480 zones. This proves capable of delivering a measured 2,750 nits of brightness on a 10 per cent white HDR window in Standard mode, or a more stable (in that it doesn't dim after a few seconds) 1,670 nits in Movie mode.

Side-by-side testing of the QE82Q950R against Samsung's first-gen 85Q900R 8K model showcases clear improvements. The new black filter and tweaked backlight management conjure more consistently deep, OLED-like black levels during dark content, such as the sewer scenes in *It* (4K BD). And backlight blooming around stand-out bright objects has been reduced, without the screen being as aggressive about dimming down these areas as its predecessor could be. This makes dynamic HDR footage look consistently explosive and realistic.

There's a touch more HDR shadow detail than there was with the Q900R, as well as

SPECIFICATIONS

3D: No **4K:** Yes. 8K – 7,680 x 4,320
HDR: Yes. HDR10; HLG; HDR10+ **TUNER:** Yes. Freeview HD; Freesat HD **CONNECTIONS:** 4 x HDMI inputs (1 x v2.1); 3 x USB; Ethernet; optical digital audio **SOUND (CLAIMED):** 60W **BRIGHTNESS (CLAIMED):** 4,000 nits **CONTRAST (CLAIMED):** N/A **DIMENSIONS (OFF STAND):** 1,835(w) x 1,055(h) x 34.8(d)mm **WEIGHT (OFF STAND):** 50kg

FEATURES: Built-in Wi-Fi; USB multimedia playback; 8K AI processing; Eden smart platform with Bixby voice support; wide viewing angle technology; black screen filter

noticeably more general detail and sharpness with upscaled 4K footage. During the *First Man* 4K Blu-ray's lunar surface shots, for example, the rocks and dust appear clearly more defined on the newer screen.

Colours again are bold but refined with both upscaled 4K and native 8K content (the latter provided via a Samsung showreel on a USB drive). The range of tones on show doesn't actually look quite as extreme as it was on the 2018 set, likely because of the way the wide viewing angle technology works. But I doubt anyone will feel like they're missing anything given the impact of the screen's brightness and contrast heroics.

Native 8K images dazzle once more. The leap in resolution reaffirms the experience I had with the Q900R. There's a greater sense of three-dimensionality to go with the extra detail. And on this monster set, these benefits are visible from typical viewing distances. Get too close, though, and you can see a slight checkerboard effect over areas of very fine detail.

In for a penny, in for £10,000

Flies in the ointment are the still visible moments of backlight blooming during extreme contrast shots, and the fact this is more apparent when the TV is viewed off-axis. Samsung's default motion processing settings are a bit heavy-handed too; the default Digital Clean View feature tends to be over eager in its noise reduction exploits when watching native 4K content; and the TV's rear-mounted speakers struggling to propel their sound forward into the room.

The most obvious drawback is the price. But if you can afford to drop £10K on a TV, you'll no doubt be happy with it ■

AV INFO

PRODUCT: 82in 8K TV with HDR

POSITION: The Q950R series sits right at the top of Samsung's 2019 TV range

PEERS: Samsung QE85Q900R; LG OLED77C8

HCC VERDICT



Samsung QE82Q950R

→ £10,000 → www.samsung.com/uk

WE SAY: Samsung's second generation of 8K TV improves on its first, confirming that 4K is no longer the only resolution in town.

ECOSSE

It's all about the music

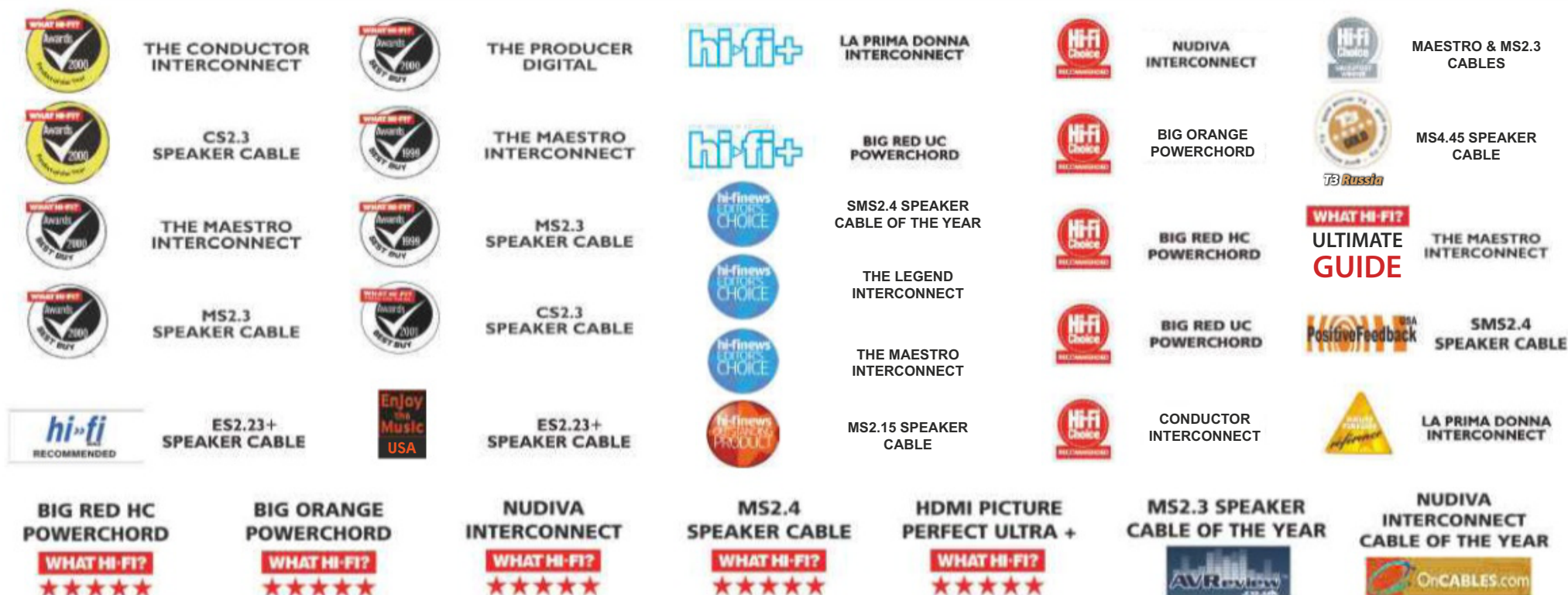
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Hi-Fi Choice - Cable Looms Group Test Winner, 2018



LG PK7 XBoom Go

In an alternate universe, LG and Meridian Audio are getting down, warns **Steve May**

IT SOUNDS LIKE a fever dream: Meridian Audio partnering with LG to create a portable party speaker. But the PK7 XBoom Go is just such a thing.

Aping urban audio style, complete with industrial hand-grips and coloured LED lights that pulse to the beat, this chunky boom box has two forward-facing woofers, twin tweeters and passive radiators either side.

Bluetooth aptX HD provides easy streaming from a smartphone or tablet (remember you can use the PK7 when watching Netflix and YouTube audio, as well as streaming Spotify *et al*). It's splash resistant too (IPX5 rated), so you can take it to your next pool party, and the rechargeable Lithium-ion battery claims a 22-hour life from a 3.5-hour charge. You'll flag before it does.

It also supports Google Assistant commands via an integrated microphone.



However, looks can be deceiving. The PK7 may appear tough, but it doesn't sound like your typical party speaker. Which is to say, it doesn't overcrank bass.

My Hero, the rap metal theme to the anime *Inuyashiki* (Amazon Prime), by Man With A Mission, showcases this lack of low-end wallop. Entertaining, for sure, but does it surge the way it should? Not really.

The PK7 has a 3.5mm input for non BT sources

RE-Powered Within, from Dragonforce's fifth album *The Power Within*, fares better, with the guitar work of Herman Li and Sam Totman crisp and effervescent.

In fact, where the PK7 really excels is mid-range delivery. The Spaghetti Western country of Sarah Vesta is crisp and melodious, the twanging guitars and smooth vocal of *Killing Fever* perfectly drawn.

So while the LG PK7 may be ready to party, it's more cheese and wine *soirée* than Rio Carnival. I can live with that, but some might expect more ■

HCC VERDICT



LG PK7 XBoom Go

→ £100 → www.lg.com/uk

[WWW.QOBUZ.COM/MONTHLY SUBSCRIPTION \(£10/£20/£25\)](http://www.qobuz.com/monthly-subscription)

Qobuz

Not as well known as Spotify and Tidal, but this premium music platform impresses **Ed Selley**

QOBUZ HAS BEEN around since 2007, and launched in the UK in 2013. Like most on-demand streaming services, it offers a library of millions of tracks that can be accessed on your computer, phone, tablet or selected pieces of AV gear. Unlike most rivals, if you select the two highest-pricing tiers (either the £25p/m Studio option or the annual Sublime+ package), a wide selection of this music is in

hi-res (to 24-bit/192kHz FLAC). Even more unusually, you can buy downloads from the Qobuz online store, with the Sublime+ tier allowing you to secure files at a discount. Qobuz is also one of two services (the other being Tidal) that can be integrated with the Roon streaming platform.

The desktop app, iOS and Android implementations all have an easy-to-follow

interface, with playlist options and curated content in addition to albums. There are some gaps in the library compared to Tidal and Spotify, but equally Qobuz has titles those services don't.

Its real strength is sound quality. A 24-bit/96kHz stream of *The Comet Is Coming's*

Super Zodiac sounds outstanding, with its ballistic combination of saxophone and keyboard clear, forceful and wildly entertaining. Standard 16-bit/44.1kHz material (the maximum quality of Qobuz's £20p/m Hi-Fi plan) is little different from Tidal but this should be expected.

The download section also works well, with a good spread of formats (FLAC, ALAC, WAV, AIFF) and music genres, and a very self-explanatory process by which you shunt the files to your computer.

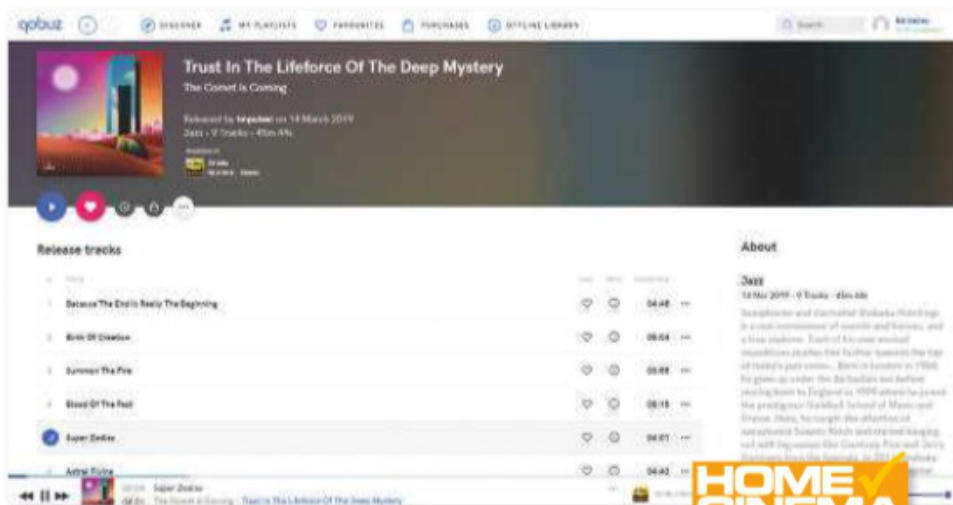
Downloading remains costly, though, and the Studio tier of Qobuz is more expensive than similar Tidal and Spotify options, but in return, the performance and features on offer have to be seen as best-in-class ■

HCC VERDICT



Qobuz

→ £Subscription → www.qobuz.com



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AE309



Digital Copy

As Sound United prepares to take over the Pioneer and Onkyo consumer audio brands, **Mark Craven** wonders what this means for AV receiver buyers

IF IT GETS final approval, Sound United's acquisition of the Onkyo and Pioneer consumer audio brands (see p12) will certainly raise a few home cinema eyebrows. Where once we had four Japanese sonic companies competing with each other for a slice of – in particular – the AV receiver pie, 2019 will see Denon, Marantz, Onkyo and Pioneer all part of the same umbrella organisation.

So what does that mean for high street shoppers? At this stage, it's hard to say. Sound United's statement is full of the optimism you would expect, and talks of 'expanded scope' and 'the development of new products.' There's always a worry when companies merge that the result will be an immediate shake-up, leading to holes in product lines and abandoned ideas, but there's no suggestion of that here.

Obviously there will be changes behind the scenes, and possibly up front too. **It's not hard to imagine Sound United rolling out its HEOS multiroom functionality to its acquisitions** – the smart speaker market is a booming one, after all, much more so than the multichannel home cinema space. Perhaps Pioneer's Ultra HD Blu-ray/universal player refinements (seen in its UDP-LX800 and UDP-LX500) will find their way into Denon or Marantz spinners. AVR room EQ could be re-evaluated too, with Pioneer and Onkyo bringing MCACC and AccuEQ systems respectively into the fold alongside Audyssey.

Under my umbrella

What also interests me is the increasing concentration of consumer electronics brands under one roof. Harman is a perfect example. This multinational owns the Arcam, JBL, JBL Synthesis,

Harman/Kardon, Lexicon, Revel, Infinity, AKG and Mark Levinson brands. But, since 2017, it has itself been owned by Samsung.

Sound United, hoping to acquire Onkyo and Pioneer audio, already has Classé, Denon, Marantz, Polk Audio and Boston Acoustics under its wing. Maybe one day LG will eye it up for a purchase.

There are other groups too, such as Lenbrook (NAD, Bluesound, PSB) and IAG (Quad, Wharfedale, Audiolab, Mission, Castle Acoustics, Luxman).

These relationships obviously appeal from a business perspective, enabling the pooling of R&D expertise, streamlined manufacturing processes and joined-up sales strategies. And as long as the brands retain their own identity and product allure, their fans aren't affected.

There's an impact on the rest of the market, of course. In terms of AV receivers, the £1,000 landscape pretty much becomes Sound United vs Yamaha, meaning the latter probably faces an even tougher challenge than it already had in a category of diminishing returns.

The worry is that a lack of different competing businesses has a knock-on effect on product innovation and consumer choice. We've seen this to an extent in the TV industry, with so many brands either departing or being reimagined (Pioneer, Toshiba, Fujitsu, JVC) that what we're left with feels like a predictable closed shop. That said, when it comes to LCD and OLED, there are format and technological developments driving the remaining companies ever forward. I'm not sure there's quite the same buzz around AV receivers – and I wouldn't be surprised if the product landscape looks drastically different in five years time ■

*Is there enough choice when it comes to AVR shopping?
Let us know: email letters@homecinemachoice.com*

Mark Craven spices up dinner parties by playing the 'Name all the audio brands of Harman International in 20 seconds' game





The Hi-Fi Guy

Audiophile **David Vivian** remembers a speaker concoction from UK brand Ferguson Hill that proved a fresh take on old ideas could deliver startling results – and weird looks

THE HISTORY OF hi-fi is littered with oddball components that have knocked over the sonic skittles: the Nakamichi Dragon cassette deck, the Transcriptors turntable, the Bowers & Wilkins Nautilus, any Chord Electronics component and the Shanling CD-T100 CD player to name but a famous five. But, for me, there's one home cinema speaker system that, for sheer surreal impact, knocks the rest into a cocked hat.

Ferguson Hill's FH009 2.1 home cinema/hi-fi system uses transparent, acrylic horn speakers (pictured) and wouldn't look out of place floating on a bed of clouds in a particularly messed-up dream.

I'll never forget my first encounter with the brand a couple of decades ago when I lived in a small, two-bedroomed flat. We were talking Ferguson Hill's very first product, the FH001, a loudspeaker that looked like a space-funneling model of a black hole.

Tim Hill, the man who designed it, was always aware of its utter strangeness. An elliptically-shaped acrylic horn, 1.65m tall and 0.72m deep, was never going to sit comfortably with those who like their speakers bijou, boxy and tucked away in the corners – never mind my modestly dimensioned living room. But he made the FH001s look the way they did because sound quality (particularly Tim's dissatisfaction with the performance of conventional speakers) was his key consideration.

The thinking was that what conventional hi-fi speakers do well – principally, produce a wide frequency response without too many peaks and troughs – wasn't the thing. Realism had more to do with timing, pitch accuracy, dynamics and, perhaps most important of all, coherence. Tim felt that putting multiple drive units in a wooden box wasn't the most obvious way of achieving these qualities. Crossover networks that handover between drivers

can cause phase anomalies and contribute to low efficiency which, in turn, robs music of its natural dynamism. But rather than look to new technologies to restore the life and vibrancy to hi-fi reproduction, Hill put a fresh twist on some rather old ideas.

Horn-loading to increase efficiency hails from a time before hi-fi itself (the trumpet on a wind-up gramophone works on the same principle), and the modified full-range Lowther DX3 driver that sat just behind the throat of the 8mm thick see-through acrylic of the horn was an updated version of a super-efficient cult drive unit that had been produced for over 40 years.

The twist was in the implementation. Partly for the sake of practicality, some single-driver designs load the driver from behind with a space-efficient folded horn. Tim went for the purist front-ended approach and the result, because of the need to get the Lowther driver to reach down to 150Hz, was **a horn of sublime elegance but conversation-stopping dimensions**. The comparatively tiny Lowther driver sat in an aluminium alloy support ring. This, in turn, was secured to the vertical pillar of the stainless steel, satin-finish stand, which was supplied with internal damping, integral spikes and floor protector discs. That was it.

It was a good idea to leave your hi-fi preconceptions at the door before engaging with the FH001s. Because engage you did. If you wanted instruments and performers in your room, and dynamics hard-wired directly to the hairs on the back of your neck, the Fergies were sublime. When they went back to their maker, I missed the looks of disbelief when people walked into room. But more than that, I missed the music ■

*What piece of AV hardware has blown you away?
Let us know: email letters@homecinemachoice.com*

David Vivian's passions are movies, music and cars – he likes to combine them by watching *The Blues Brothers* once a fortnight





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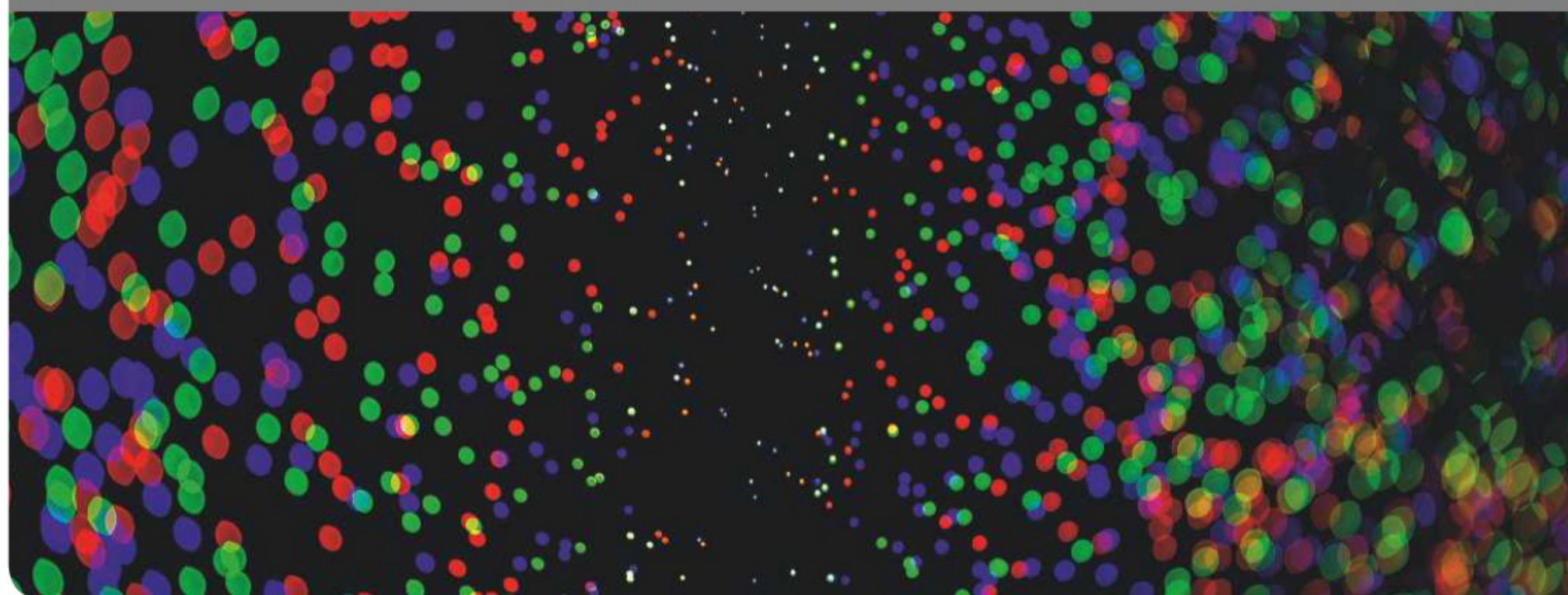


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In The Mix

LCD is ready to fight back against OLED via a technology tweak long used in professional mastering monitors. **Jon Thompson** wonders why we've waited so long

I WAS QUITE surprised when some of my media colleagues went to a demo of the latest consumer TVs and a Dolby Pulsar monitor was used to show how a film's grading/QC process is done. Well, actually I was taken aback with the response to the Pulsar. It was as if they'd just seen the Messiah. Yes, they were right to be impressed by the reference picture it produces, but the issue is it was first shown 11 years ago and went on sale to the post-production community in 2011...

This hammered home something I have been thinking for some time. The technology on sale at the moment for consumer televisions is all, in essence, last century's technology – be it OLED, VA LCD or IPS LCD. Not a single flatscreen on the market today is using 21st century display technology, and the manufacturers have been sweating their assets now for as long as they can. Picture formats are far beyond the capabilities of the consumer TVs on the high street.

As easy as 1, 2, P3

The minimum that a display should be able to show today is P3 colour, and ideally it should be greater than P3 – 105 per cent to 125 per cent coverage is what's really needed to give you a perfect P3 reproduction. Not a single consumer TV can reach this at the moment, which is shocking.

P3, which is much bigger than the HD colour space REC.709, was defined in the 1990s as the colour space of a xenon arc lamp used in 35mm cinema projectors. The 'P' stands for primaries and the '3' means, well, three – red, green and blue.

In 1998 Texas Instruments came up with P7, which featured red, green, blue, cyan, yellow and magenta by modulating the RGB panels off each other. The colour space was not a triangle but

a hexagon – the seventh primary referred to white and the white point. Modulating has become the key to improvement in professional displays, and should finally become a domestic concern too.

Double modulated LCD is a key technology of the Dolby Pulsar monitor, as double modulated DLP has been to Dolby Cinema projection.

The manufacturer that looks likely to bring this professional monitor-style technology to the market first is Hisense.

The process, in layman's terms, involves two LCD sheets bonded together, one marshalling colour, the other luminance. The result is a colour space handling of 100 per cent P3 and a massive increase in contrast ratio (to 1,000,000:1), with pixel-level LED illumination and no requirement for the local dimming engines employed on traditional LED-lit LCDs to strive for greater contrast. Hisense dubs it ULED XD, and it's expected to launch officially next year (having been shown in prototype form at this year's CES).

This strikes me as a good development. The consumer display space is so far behind it's disturbing, and more issues like the *Game of Thrones* 'too dark' fiasco will continue to highlight this. It won't remove the stray Starbucks cups but at least you'll see what has been created closer to the way the creatives created it.

The professional display arena never stands still (I've recently had a prototype display that eclipses even the Pulsar), and neither should the consumer one. So I'm hoping next year there really will be a revolution in the domestic space, as it's been a long time coming ■

*Are you happy with your current display?
Let us know: email letters@homecinemachoice.com*

When he's not in his screening room, **Jon Thompson** tweets about Hollywood gossip, movie-making and digital mastering at @johnnyfocal



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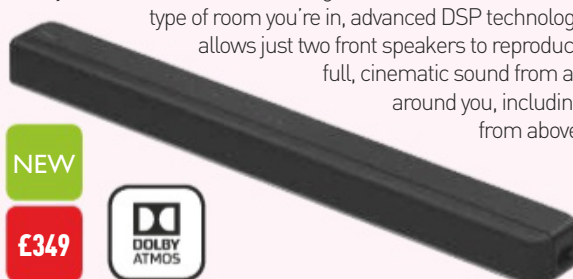


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Feedback

Got an axe to grind? Need to comment on current tech? Want to share your knowledge with our readers? **Team HCC** is here to help

The end of 'small' TVs?

Understandably your magazine is aimed at home cinema in the fullest sense, which means large screens. TV brands now concentrate on producing mostly screens from 49in upwards. But what about those of us who cannot accommodate anything larger than 43in (with a fine sound system) in their homes?

I have an XE Series Sony 43in set, fortunately with four HDMI inputs. As I have a 4K Sony camcorder (superb) and Sony Blu-ray player, I wanted to be able to synchronise them all. Successfully done. The 4K camcorder is easily controlled now with the TV handset; Sony does not supply a camcorder remote.

One thing that rather put me off on purchase – discovery that it is an IPS panel. Producers do not usually inform you of this. The set took me quite a long time to calibrate it to optimum performance. Fortunately, it does have contrast and black level adjustments that are rather better and finer than my previous (VA panel) TV.

I am an artist and photographer with a keen and demanding eye. Finally I have achieved splendid results: super sharpness (helped by reducing the sharpness control!) and



Panasonic's GX800 LED TV comes in a 40in iteration

upscaling of HD; 4K material looks superb too. Blacks in the picture are truly black and deep with gradation shades in between, great contrast, vivid, and splendid, rich Triluminos colour. The only time blacks show as deep grey is on an overall black screen, or some (not all)

night shots. The latter seems to depend on the source material. *Bodyguard*, for instance, had splendid real blacks in dark scenes, so do black-and-white movies, some others do not.

So two questions: why are there so few choices with screens around 43in, and why

Let there be light!

At long last someone has found a use for an old VHS camcorder – shoot what should have been one of the highlights of television drama (the Battle of Winterfell in *Game of Thrones*, S8, Episode 3). I couldn't believe how bad the picture quality was. The image was totally crushed of any detail and there were several issues of banding. You couldn't see who was fighting who because the image was sooo dark.

I can't believe that HBO allowed this to be aired. Everyone I spoke to the following day commented on how the episode was spoiled by the picture quality. I don't even think that if this was aired in 4K it would have made any difference.

Hopefully someone will do their job properly and sort it out for the Blu-ray release. Fingers crossed, but I won't hold my breath.

Paul Kelly



Back in black: *Game of Thrones*' Battle of Winterfell

IPS? (although I have to say that HDR and obvious improvements have made IPS in this TV a very marginal problem in only about 5 to 10 per cent of viewing at most. I consider much of the time the image is superb and vivid. But definitely not on an 'out-of-the-box' TV setting – it needed work!).

Roger Payne

Mark Craven replies: While even recent market figures suggest the average TV screen size is no bigger than around 42/43in, there's an upward trend, with sizes predicted to rise close to 50in by 2021. Does this mean that people want larger screen sizes, or just that they're not being offered the chance to buy smaller sets below, say, the 43in mark? Probably, it's a bit of a both.

Some manufacturers now reserve their premium feature sets and processing technologies for larger screen sizes. Consider Samsung's QE90 QLED range, which only begins at 55in (and currently goes up to 77in). OLED displays also begin at 55in, because the current panel supplier (LG Display) doesn't make them any smaller.

Smaller models aren't being totally jettisoned, however. Panasonic this year is offering its GX800 LED TV (4K, Dolby Vision, HDR10+) at various sizes down to 40in – although the next step up is 50in. And Sony has 43in and 49in models in its new XG stable, albeit not with its most premium processing. If you were to seek a replacement for your XE model (but you sound perfectly happy with it, so why would you?) you should still be able to find a similar sized, well-specced model available. I headed over to the Currys/PC World website and found 60 options between 43in and 49in, from entry-level sets to mid/high-end models. There are more options (over 80) between 50in and 59in, however.

How big will our TVs go? Recently, I chatted to a spokesperson for Chinese brand TCL who suggested that trying to establish the ideal screen size was the wrong way to go about it. Instead, the focus should be on what can be offered around the £900-£1,000 price point, as it's consumers wallets that make the choice.

As for the IPS vs VA panel debate, manufacturers (many of which source their panels from third-party suppliers) will opt for whatever makes sense commercially, including the available size. You'll sometimes find companies using both types across their whole range, rather than sticking to one out of principle. Essentially, IPS-based TVs have much more efficient viewing angles, whereas VA models deliver better contrast via deeper black levels. Of course, other factors – including the implementation of LED backlighting and local dimming – also have an impact on a display's overall image quality.

★ Star Letter...

Bothered by subwoofer specs

I would like to comment on an apparent (I say apparent because I'm not sure if it's true) anomaly in the subwoofer group test by Steve Withers in HCC #297.

The group winner, and in the text it is described as the deepest subwoofer, is the Fyne Audio F3-12. Yet its claimed frequency response is given as 'Down to 28Hz'. The PSB SubSeries 250 turned out in practice to be the least deep of all four subwoofers in the test, yet its response is '25Hz to 150Hz', which at the lower end is specified as lower than the Fyne Audio! The REL HT/1205, which finished second overall, is specified as 'Down to 22Hz (-6dB)', which should be a fair bit deeper than the Fyne Audio but that's not what actually transpired, though it was close. The SVS SB-1000, which finished a strong third, is specified as '26Hz to 300Hz', which again is apparently lower than the Fyne Audio, which bests it.

I realise that it would help if all the subwoofer frequency specifications had -3dB or -6dB limits, but even allowing for that, in this group test at least there seems to be no correlation to how deep a subwoofer actually sounds in practice, and its claimed frequency response.

Ken Benjamin

Steve Withers replies: While the measurements provided by subwoofer makers can provide a useful guide to their products' capabilities, the conditions under which they were tested may be

inconsistent. Specs never tell the whole story.

During my testing I sought to ensure all four subs were reviewed under identical conditions and with the same content. I also took steps to mitigate the influence from my room as much as possible.

Under these controlled circumstances I felt the Fyne Audio F3-12 (pictured) delivered the deepest perceived bass response using the content highlighted in the group test. Of course, a perception of 'depth' is largely subjective, and for various reasons may not reflect a subwoofer's quoted bass response.

In the case of the F3-12, its low-end presence was undoubtedly reinforced by other performance factors such as its speed and overall slam. It was also the only ported sub in the group which, despite its quoted measurements, undoubtedly gave it slightly more depth around the port and thus more impact. I was also impressed by its responsiveness and control.

This sense of speed, combined with a deeper bass presence with all frequencies below 120Hz was what ultimately gave the Fyne the edge.

Star letter-writer Ken grabs a copy of the acclaimed man-vs-nature survival thriller *Arctic* on Blu-ray. Available to own on Digital, DVD and Blu-ray from June 24, courtesy of Signature Entertainment, *Arctic* stars Mads Mikkelsen as a pilot whose plane crashes in a remote corner of the Arctic...



Digital copy turns me off

Michael O'Grady asks if anyone else is annoyed by the digital copies of Blu-ray discs [Feedback, HCC #299]. My answer is 'no', as I have never ever used one. To be honest, I barely even notice the slip of paper these days and just leave it in the box.

I buy Blu-rays/4K Blu-rays only to watch them on my home cinema setup (4K DLP projector and Dolby Atmos surround sound). I've never wanted to watch a film on my tablet or smartphone, even if the picture quality is

hi-def, as that's not how the movie was meant to be seen.

I appreciate that others will think differently but having a digital version of a film I've already paid for and own on physical disc isn't something that interests me at all!

Phil McCubbin

Mark Craven replies: Although, like you, I have little interest in digital copies personally, I'm in favour of the concept, as it does give consumers additional, (supposedly) simple

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Yamaha's RX-A3080 is the brand's only AVR with 11-channel processing

access to something they've paid for and shouldn't have to pay for again. As Michael pointed out, however, the system is a bit of a mess...

Dressed up to the nines

In your review of the Yamaha RX-A3080 AV receiver in *HCC #298* you suggest that readers might prefer the cheaper RX-A2080, implying that the only real difference is the lack of XLR sockets.

However, whereas both amps have nine channels of amplification, the RX-A3080 can, with the addition of an external amplifier for the front channels, handle Dolby Atmos with four overhead speakers (7.2.4); the RX-A2080 does not provide this. You can still use an external amp for the front channels but you can only have two overhead speakers – 7.2.2; the unused internal amps can only be used to drive another zone.

Roger Wilmut

Mark Craven replies: Thanks for the letter Roger, as – looking back at the RX-A3080 review – you're right that it probably needs clarifying. The RX-A2080 does indeed only support nine-channel setups, while the RX-A3080 can run 11-channel systems with external amplification. When our reviewer wrote, 'If you only need a nine-channel AVR, Yamaha's own RX-A2080 could well be a more sensible buy,' we should have stressed that amp's lack of 11-channel processing.

The cost of 4K

Dear Sir. As a buyer of about six 4K movies every year why do I have to pay for a Blu-ray and digital copy? I understand some buyers have a second 1080p player – let them pay the difference. I only want the 4K movie. Surely that would bring down the cost.

I pre-ordered *Aquaman* 4K from a well-known internet site at £24.99 (price guaranteed) but soon after it's price had jumped to £29.99. In these times of illegal downloads, these retailers or whoever sets prices are not doing themselves any favours.

Geoff Millington

Anton van Beek replies: Playing the cynic, as usual, I just don't see the major studios doing anything to reduce the cost of Ultra HD Blu-ray releases any time soon, as they wouldn't want to do anything that would eat into their profit margins (which were rapidly eroded on DVD and BD). So I expect that even if they were to ditch the BD and/or digital copy from the 4K package, the Hollywood labels would still charge you exactly the same price for it...

Don't be late!

Richard Stevenson is wrong about *Blade Runner 2049* (it's very good) but right about the need to get in the 'zone' for watching a movie. [*Point of View*, *HCC #299*].

We have regular movie nights in our house (typically once a week on a Friday, Saturday or Sunday) and I have become quite a stickler for making sure we start on time! 8pm is about as late as I like to begin a film because many these days are more than two hours long and I've found that watching anything beyond 11pm can mean I'm beginning to nod off. Maybe it's because I am getting old...

Craig Gibbens

Contact us...

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WIN! Great Blu-rays up for grabs...

Head over to www.homecinemachoice.com/competitions to be in with a chance to win

Kind Hearts & Coronets

Hailing from the golden age of Ealing Studios, the superb British black comedy *Kind Hearts & Coronets* turns 70 this year. To celebrate the occasion, Studiocanal will be releasing a new 70th Anniversary Collector's Edition on June 24, featuring a new restoration of the film on Blu-ray and DVD, plus a booklet, art cards and a poster. And if you fancy getting your hands on one, we have five copies up for grabs!

Question:

Which actor plays nine different members of the D'Ascoyne family in the film?

Answer:

- A) Stanley Holloway
- B) Alec Guinness
- C) Peter Sellers



Dazed and Confused

Get ready for a cavalcade of beer, bong and bell-bottoms as The Criterion Collection adds Richard Linklater's mid-1970s-set coming-of-age film to its UK Blu-ray lineup. *Dazed and Confused* is out now and to mark the release we have five copies of the Blu-ray to dish out.

Question:

Richard Linklater directed a rotoscoped adaptation of which Philip K. Dick story?

Answer:

- A) *A Scanner Darkly*
- B) *Do Androids Dream of Electric Sheep?*
- C) *Paycheck*



The Kid

Dane DeHaan, Ethan Hawke, Chris Pratt and newcomer Jake Schur star in this thrilling Western about a young boy on the run who gets caught up in the lives of Billy the Kid

and Pat Garrett. *The Kid* is out now on Digital Download, DVD and Blu-ray – and thanks to Lionsgate UK we have five copies of the Blu-ray to be won!

Question:

The Kid director Vincent D'Onofrio played which Marvel Comics villain on Netflix?

Answer:

- A) The Kingpin
- B) Kilgrave
- C) Cottonmouth



Batman vs Teenage Mutant Ninja Turtles

The Dark Knights meets the Heroes in a Half-shell in this wild feature-length animated movie, out now

to own on Digital, DVD, Blu-ray and Blu-ray Steelbook courtesy of Warner Bros. Home Entertainment. To celebrate we've got three Blu-ray Steelbooks to give away!

Question:

Which of the following is not one of the Teenage Mutant Ninja Turtles?

Answer:

- A) Leonardo
- B) Donatello
- C) Banksy

To enter any of the above competitions go to www.homecinemachoice.com/competitions

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Certified: AV-Holic!

HCC reader **Joseph** has turned an integral garage into a movie den where he mixes up 4K HDR/ Dolby Atmos playback with some LaserDisc favourites

Welcome to the AV-Holics Hall of Fame – introduce yourself!

I'm Joseph Powell, 49. I work as an IT manager.

How long have you been into home cinema – and what was the first setup you had?

I've always enjoyed watching movies and got into home cinema in 1996 when a friend introduced me to surround sound. He had a Yamaha DSP-A2070 amp and had connected it to some Bose Acoustimass speakers. I was smitten straight away and wanted to get a similar setup. I eventually got a Yamaha DSP-A3090 and some Bowers and Wilkins

600 Series speakers after reading a review and listening to them in Bill Hutchinson Hi-Fi in Leeds. I had this connected to a Pioneer CLD-D925 LaserDisc player and was hooked. I used to import my movies on LaserDisc and AC3 was the sound format to have, as was THX. I eventually upgraded my player to the DVL-909, which I still have today.

When did you make the decision to set up your current cinema room?

Since the start of my hobby I have longed for a dedicated cinema and the decision to create this room was made the moment we moved

into our now home; the house had an attached garage with access to the house and the moment I saw this I knew it had the potential to make an excellent cinema. My wife took a little more convincing but eventually came round to the idea if I agreed to make it less 'cinematic' and more like a cosy living room.

Did you get any help from professionals with the build?

I used two local builders to complete the bulk of the works and, being an IT professional myself, I managed to complete all the cabling and connectivity. However, I have to give thanks to Chris at MSG Custom Audio

Limited for his assistance in supplying and advising on the required audio plates and connections needed – his patience and advice was greatly appreciated.

How long did the project take to complete?

The building work side of the project took eight months from start to finish with an additional month to complete all the required wiring and connectivity.

Roughly how big is the room?

It measures 14.5ft x 18ft (4.41m x 5.48m).

What kit's in the system?

My AVR is the Denon AVC-X8500H and speakers are B&W 603S2 (fronts), B&W 602S3 (rear and back surrounds), B&W 601S2 (front and back heights) and B&W LCR6 (centre). I have two subwoofers – a REL Stentor III and a REL Q150 – plus a Butt kicker BKA1000-N amp and Earthquake Quake 10B tactile transducer.

My display is a Samsung UE65KS9000, and sources are an Oppo UDP-203 4K Blu-ray player, Pioneer LaserDisc player and Synology NAS. The cinema also uses an APC power conditioner, Cisco network switch and Hive-controllable ceiling lighting.

What's your verdict on the room's performance?

The room configuration/setup has performed way beyond my expectations. It has been a learning process and I have had to do a lot of experimenting along the way to get to where we currently are. Initially I put myself in the hands of Denon and the Audyssey setup. I followed the manual to the letter and having not experienced Dolby Atmos in all its glory I was quite impressed with the outcome of the sound. It was several months later after reading articles and watching a few YouTube videos that I started experimenting with the settings and ended up reverting back to my trusty sound meter to see how well Audyssey had done in the configuration of everything.

It had come close but not as close as I'd liked. I recalibrated the speaker settings and the results were like night and day. The sound became much more rounded, with a lot more depth and soul.

The same learning process had taken place with the subwoofers. Previously I would have thought that one sub would have been enough but after having two I could never go back to just the one. Again the difference is night and day, the room is fuller and the bass is much more evenly spread.

The addition of the Butt kicker has also made for a welcome touch. Less is more with this piece of kit but it's configured to just add a subtle vibration in the low-end and makes a valuable contribution to watching movies.

Is there anything you'd do differently if you were to design the room again?

Absolutely. For one thing I would take more time in the planning stage to make sure I thought everything through, as once the



Lurking in the rear corner is Joseph's Butt Kicker amp for in-seat LFE thrills



A larger front subwoofer is on the wishlist

building work starts you find it's harder to go back to rectify or alter things.

Also, now that it's all completed and we are enjoying the cinema, my wife agrees that it's turned out better than expected and if we could go back we would probably like to have made it more cinematic in its appearance.

What was the last bit of kit you added to the setup?

I recently upgraded three Netgear NAS drives to a single Synology NAS solution with 4 x 8TB SATA drives using RAID 5, giving 21.8TB storage space. I wanted more storage and quicker access times to stream 4K movies, also the Synology has an in-built Plex server, which I use for watching movies in other rooms.

What's your favourite bit of hardware and why?

Without a doubt the best bit of kit has to be the Oppo UDP-203, the quality is just outstanding. It's the little things that make all the difference, like auto lighting of the remote when it's moved and the options within the menus to adjust almost every aspect imaginable. Its network capabilities are just great. I never have a problem with this player – it just does its job perfectly.

Do you have your eyes on any hardware upgrades?

I would love to upgrade the front subwoofer. I think a larger unit could add much more to the game. There seems to be a larger market for subs these days and there's a lot to choose from, so I will have to do some auditioning.

What discs do you use to show off the system?

The best movies experienced so far to show off the soundstage have got to be *Annihilation*, *Kong: Skull Island* and *The Greatest Showman*, all for different reasons. The subtle sounds that you hear with *Annihilation* are incredible, they swirl around the room and you often hear the tiniest noises in far corners and at different



All the speakers in the cinema are from B&W

Joseph still uses his Pioneer LaserDisc player



heights. With *Kong*... it's all about the bass, this movie shakes the room with the deepest bass I've heard so far. I have to knock back the subwoofer or it's just too intense. It's a great movie for showing off the Buttkicker also.

The Greatest Showman is the wife's favourite. It has significant presence and the cinema comes alive with every song. It has a rich, warm soundstage that delights, but equally you can hear the quietest sounds, like Hugh Jackman's breathing in Chapter 1.

And what are your top 5 favourite films?

Back to the Future (trilogy), *Interstellar*, *Forest Gump*, *The Shawshank Redemption* and *Alien*, in that order.

What do friends and family think of the cinema room?

Everyone who has experienced the cinema loves it, recently my wife had friends over and they all left smiling and thrilled – although wine was involved also.

How often does the cinema room get used?

On average around once or twice a week. We try not to overdo the experience for fear of it becoming normalized. We want it to thrill us on each visit, as it has been doing so far.

Do you stream movies/TV from Netflix, Amazon, Sky, etc?

We stream from Netflix but not into the cinema – we use Netflix mainly for general watching in other rooms. Most of the movies watched in here are from either Blu-ray or LaserDisc or downloaded to my NAS and streamed to the Oppo player ■

Share your cinema system in the mag!

If you want to be in **HCC**, you'll need to send us some hi-res images of your cinema room. Here are a few tips...

1. Go big. Set your camera to take images at the largest possible size, and at the highest resolution. Don't worry about cropping or resizing – we will make them print-ready.
2. Get in focus. Make sure your photos are as sharp and clear as possible. If you have one, use a tripod, or place your camera on a flat, steady surface and take pictures on a delay. The sharper they are, the bigger we can print them.
3. Let some light in. While we tend to watch

- movies in the dark, our cinema systems look their best when they are lit. If you can shoot with natural daylight, do so. If your room doesn't get a lot of light (a garage conversion, for instance) then switch on whatever lights are fitted. Avoid using flash wherever possible.
4. Be thorough. Send photos of as much of the room as possible. Images of both the front and back of the room, the kit rack, speakers, seating, disc shelf, movie poster art... The more the merrier.

5. Don't be shy. Send a picture of yourself!
6. Show us more. Got pictures of your room before it was a cinema? Or snaps of work being done? We love to see these, too.

Now what?

Email your images to **letters@homecinemachoice.com** with the subject heading 'AV-Holic', and provide your answers to the relevant questions above – then we'll be in touch!

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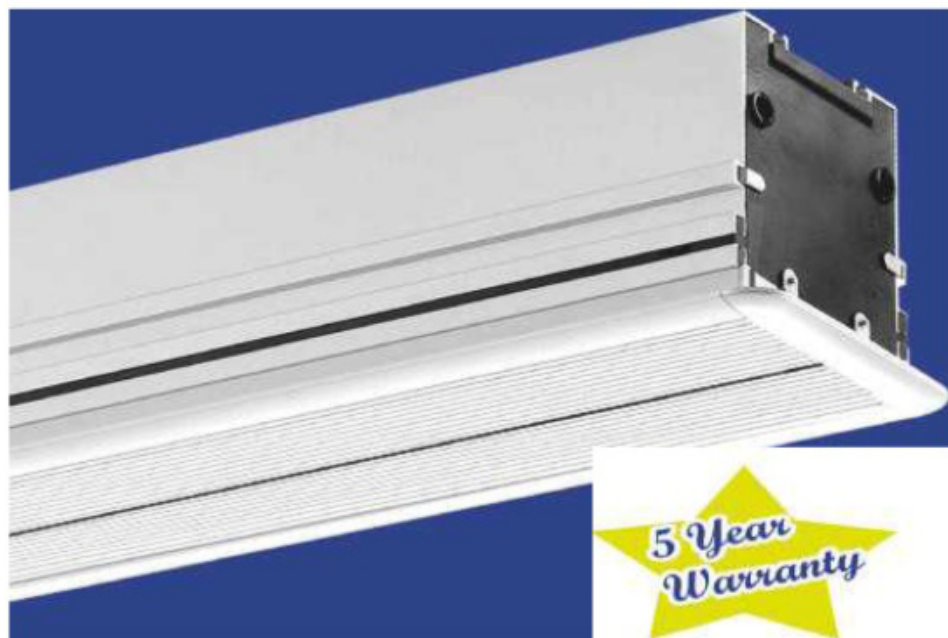
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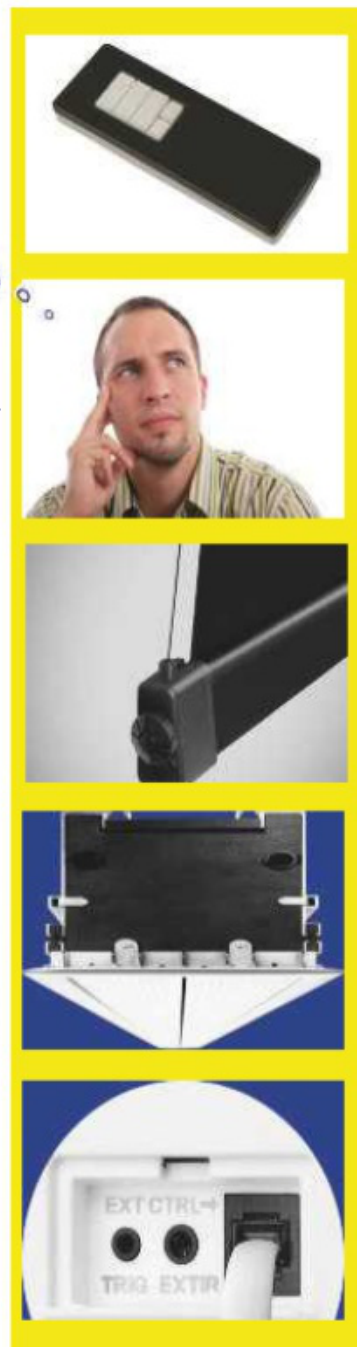
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PLAYBACK

→ **SOFTWARE HIGHLIGHTS** **COLD PURSUIT** Neeson's chilly thriller deserves a better Blu-ray **FIGHTING WITH MY FAMILY** Wrestling film has all the right moves **BLACK HAWK DOWN** Ridley Scott's war epic is reborn in 4K **THE LEGO MOVIE 2** If you build it, they will come **THE ANDROMEDA STRAIN** Classic sci-fi-thriller goes under the microscope **& MORE!**

Devilish delights

Hellboy II: The Golden Army
→ Universal Pictures → Ultra HD
Blu-ray & All-region BD

Guillermo del Toro's 2008 comic book sequel has long been a favourite with home cinema hedz – so how will the film's new 4K/DTS:X update fare? Turn to p96 to see if we're raising hell or praising it to the heavens...

HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆

All prices quoted are approximate and may have changed

Revenge truly is a dish best served cold...



Plowing through the bad guys

Liam Neeson has a different set of skills, but the same thirst for revenge, in this quirky thriller



→ COLD PURSUIT

When his son is murdered by a Denver drug lord, small-town snowplow driver and 'Citizen of the Year' award recipient Nels Coxman (Liam Neeson) sets out on a mission of bloody vengeance.

So far, so much your typical Liam Neeson action thriller – or so you'd think... Based on the 2014 Norwegian film *Kraftidioten* (also directed by Hans Petter Moland), this is actually much more of a black comedy. Indeed, between the dark humour, roster of idiosyncratic characters, odd little plot detours and the wintry setting, it leaves *Cold Pursuit* resembling the brilliant *Fargo* TV series much more than *Taken*.

Unfortunately, *Cold Pursuit*'s writing doesn't quite rise to the same heights as that show. The shifting tone doesn't always run smoothly and the female characters are frequently underdeveloped, wasting the likes of Laura Dern and Emmy Rossum. Curiously, both of these complaints may have been eased if the material (and characters) had more space to breathe – making you wonder if the story would have worked better as a TV miniseries rather than as a two-hour feature.

Picture: *Cold Pursuit* features a somewhat inconsistent AVC 2.40:1 1080p encode. Brighter scenes, particularly exteriors, are extremely impressive, boasting a clarity and depth

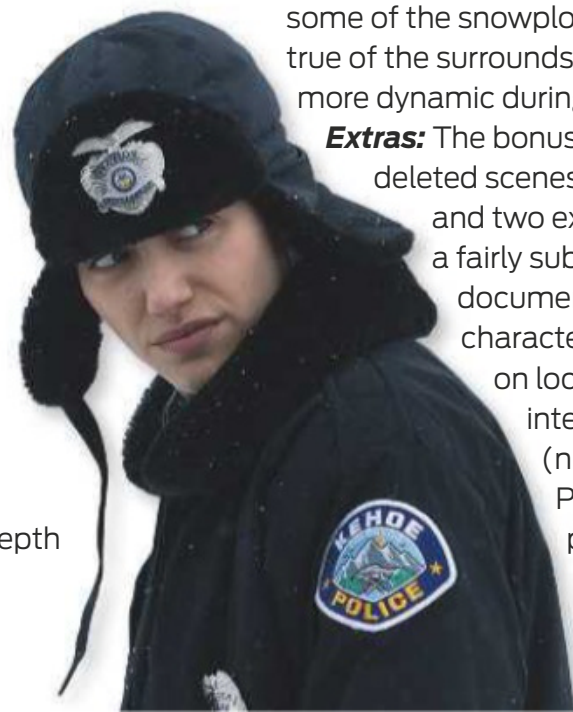
that gives them a genuine sense of depth. Close-ups, particularly those of craggy-faced Liam Neeson, are also very impressive, showcasing a wealth of textural details.

Unfortunately, there's a real issue with black levels throughout the film, right down to them shifting from inky blacks to faded greys within the same scene. This appears to be down to the colour grading the movie has been subjected to in post-production, rather than any technical issue with the encode, but either way it's quite distracting.

Audio: Thankfully, Studiocanal doesn't think object-based soundtracks are the sole preserve of 4K discs, so this Blu-ray sports a Dolby Atmos mix.

Truth be told, the mix doesn't offer much in the way of discrete height-based effects. Instead, it uses it to enhance the ambience of the locations – especially the harsh weather conditions during some of the snowplow scenes. The same is also true of the surrounds, although things do get a lot more dynamic during a final shootout (Chapter 11).

Extras: The bonuses kick off with a reel of five deleted scenes (actually three deleted scenes and two extended scenes). Next up is a fairly substantial half-hour *Making of...* documentary looking at the story, characters and challenges of shooting on location. Rounding things off are interviews with star Liam Neeson (nine minutes) and director Hans Petter Moland (eight minutes), plus the trailer. **AvB**



HCC VERDICT

Cold Pursuit

→ Studiocanal → Region B BD

→ £23

WE SAY: Inconsistent black levels are snow joke when it comes to this black comedy's Blu-ray debut.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

The Kid

Lionsgate → Region B BD
£20



Actor Vincent D'Onofrio turns director for this Western coming-of-age story about a young runaway whose quest

to save his sister from their thuggish uncle sees him getting caught up in the exploits of Pat Garrett and Billy the Kid. With so much going on, it's no surprise the film often feels unsure of where the story's focus really lies – however, thrilling turns from the likes of Ethan Hawke and Dane DeHaan keep it hanging together. On top of some impressive 2.40:1 Full HD visuals and DTS-HD MA 5.1 sonics, Lionsgate's Blu-ray also offers up a nine-minute *Making of...* video. **AvB**



Piercing

Vertigo Releasing → R2 DVD
£10



Christopher Abbott and Mia Wasikowska excel as a new father seeking an outlet for his violent tendencies and the

woman he plans to kill – only to learn she has some pretty devilish desires of her own – in this stylish and perverse dark comedy based on a novel by Ryu (Audition) Murakami. Denied a UK BD release, this affordable DVD delivers a decent anamorphic 1.78:1 transfer that copes well with the film's bold colour palette. Meanwhile, the disc's DD 5.1 mix handles the sensational score (consisting of classic giallo tracks) expertly. A trailer is the sole extra. **AvB**



The Kid Who Would be King

Twentieth Century Fox → All-region BD
£25



Attack the Block writer-director Joe Cornish tries his hands at more family-friendly fare with this fantasy flick about a British schoolboy who finds Excalibur and must battle Morgana and

her undead army. Aimed squarely at kids, the story doesn't offer much for adult viewers to sink their teeth into – although the detailed AVC 2.40:1 Full HD imagery and forceful, immersive DTS-HD MA 7.1 soundtrack served up by Fox's Blu-ray ensure that watching the film is no chore no matter your age. Bonus goodies include four deleted scenes and seven unexpectedly detailed featurettes. **AvB**



Girl power packs a punch

Florence Pugh ropes in The Rock in this crowd-pleasing wrestling biopic

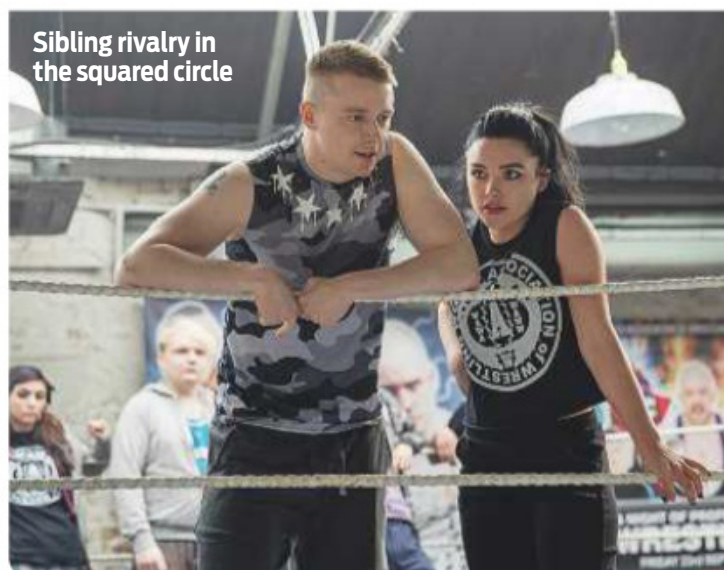
→ FIGHTING WITH MY FAMILY

Following years of wrestling one another around the UK, Norwich siblings Zak (Jack Lowden) and Raya Knight (Florence Pugh) finally get the chance to see their dreams come true when they are invited to try-out for the WWE. However, while Raya makes the cut, Zak doesn't. Adopting the stage name Paige, Raya moves to the US, but struggles to fit in with her fellow trainees and contemplates packing it all in. Meanwhile, back in the UK, Zak grows more and more bitter about the hand he's been dealt...

Written and directed by Stephen Merchant – but based on a Channel 4 documentary of the same name – *Fighting with My Family* is an energetic mix of fish-out-of-water comedy and coming-of-age drama that has the emotional muscle necessary to win over even those with absolutely zero interest in the world of professional wrestling.

What makes the film work so well are the performances. Florence Pugh (previously seen in *Lady Macbeth*) is excellent in the lead role, but she's not alone – there's plenty of dramatic and comedic back-up from the likes of Vince Vaughn, Lena Heady and Nick Frost. Meanwhile, executive producer Dwayne 'The Rock' Johnson adds some wrestling star power and provides some of the film's biggest laughs too.

Picture: *Fighting with My Family* features two distinct looks, each equally well-handled by this Blu-ray's AVC 2.40:1-framed 1080p encode. Scenes set in the UK have a slightly drab and muted appearance, while those that take place in the US are brighter, with a much more vibrant colour palette.



Sibling rivalry in the squared circle

However, while the two colour palettes may be different, other fundamental aspects of the encode remain the same. These include excellent clarity, stable black levels and strong detailing.

Audio: The Blu-ray offers up a competent, but unadventurous, DTS-HD MA 5.1 soundtrack that is just as happy engaging the surround channels with atmospheric effects as it is body-slammng your subwoofer during the wrestling scenes. Dialogue reproduction is routinely strong.

Extras: A reasonable array of Blu-ray extras includes an enjoyable solo commentary from writer-director Stephen Merchant; six deleted and extended scenes; a gag reel (all culled from an embarrassing dinner scene); the nine-minute *A Family's Passion: A Making of* featurette; and the three-minute *Learning the Moves* featurette about the wrestling scenes – the latter two of which are enlivened by input from members of the real Knight family. **AvB**



HCC VERDICT

Fighting with My Family

→ Lionsgate → Region B BD
→ £25

WE SAY: Funny, heartfelt and well-acted, this sports comedy-drama is a bit of a knock-out on Blu-ray.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★



Black hawk damn!

As close to combat as you'll ever want to get – and an early contender for Ultra HD Blu-ray release of the year...

→ BLACK HAWK DOWN

Recounting the true story of a disastrous mission undertaken by US elite forces operating in Mogadishu in 1993, Ridley Scott's 2001 box office hit is a visceral recreation of modern combat and one of the best war flicks of all time. Perhaps the only real criticism of the film is that it rarely provides much context; the Somali militia are little more than faceless cannon fodder for much of the running time. However, that's not really the point: this is about the men and their mission, rather than the bigger picture.

The only other problem is that because the cast mostly sport crew cuts and similar costumes, it's often hard to tell who is who in the heat of battle. Since the film's release that's become less of a problem due to many of the supporting actors going on to stardom (Orlando Bloom, Tom Hardy, Jeremy Piven and Nikolaj Coster-Waldau, for example). However, Scott also does an excellent job of ensuring the viewer understands what is happening, even as events become more chaotic and desperate. The end result is a fitting tribute to those involved.

Picture: *Black Hawk Down* was one of the first Blu-rays ever released, way back in 2006. That original 1080p disc is included in this UHD set, but the new 4K platter is superior in every conceivable way. This is one of the best-looking 2160p releases to date, with a gorgeous new HDR10 transfer presented in 2.40:1.

The production was shot on 35mm and this native 4K restoration is beautiful, with a sheen of grain that retains a film-like quality. The level of detail is exceptional, with a sharpness and clarity that reveals everything from the crowds of people on the streets of Mogadishu to the sweat and dirt on the soldiers' faces. The definition in badges, textures, and clothing is often breathtaking.

It isn't just the native 4K image that impresses, the HDR presentation is equally as remarkable. The colours are saturated and complex, with the many greens and browns rendered with precision, and the blues and reds delivered with astonishing vibrancy. The same goes for the many fiery explosions, each of which retains an orange intensity.

The wider dynamic range of HDR also adds to the picture's impact, with deep blacks and plenty of detail in shadows as night falls and the soldiers fight in the darkness. The same goes for specular highlights, with sunlight realistically reflecting off vehicles, weapons, visors, and the sea. This release is the perfect example of just how good a modern UHD Blu-ray can look.



Black Hawk Down won Oscars for film editing and sound mixing

Audio: The new Dolby Atmos soundtrack is also superb, and a perfect companion to the stunning visuals. This is a brilliant slice of object-based audio, with the sound designers using every available channel to envelop you in the sonic onslaught.

Things get off to a great start as the helicopters lift into the air to the strains of Stevie Ray Vaughan's cover of *Voodoo Child*, which really sets the tone and gets the blood pumping. Nothing lends itself to overhead channels as well as a whirlybird, and sure enough you soon have choppers flying all around as the troops head into Mogadishu.

Once the battle kicks off the soundtrack moves up a gear, with bullets zipping through the soundfield and shell casings falling all around. Explosions hit with a massive percussive thump, and the LFE channel is used to give heavy machine-gun fire more impact. Mini-guns on the Apache helicopters tear through the soundstage with force.

The chaos of war is brilliantly recreated, from the screams of fighters, to the surface-to-air missiles, to the debris that flies through the air as buildings explode around the embattled soldiers. And yet within this cacophony of military mayhem, the frantic dialogue remains easy to understand, helping to explain what's happening and drive the story forwards.

Extras: This release doesn't mess around when it comes to supplementary material, with all the extras from every previous release included. For a start you get two versions of the film on the UHD disc: the original Theatrical Cut, and a longer version that includes an extra six minutes of footage (previously only available on DVD).

That Extended Cut is the only extra on the 4K platter, all the others are included on two Blu-rays. The first is the same one that was originally released back in 2006, and features three commentary tracks, plus *The Essence of Combat: Making Black Hawk Down* doc. This six-part feature (presented in standard definition) covers every aspect of the production and runs 140 minutes in total.

The second Blu-ray includes a host of additional material, most of it also in standard-def. You get a 90 minute History Channel documentary and a 55 minute PBS documentary about the actual events, along with a half-hour on-set feature. There's also cast and crew Q&A sessions, a multi-angle scene breakdown, deleted/alternate scenes, a music video, image galleries, TV spots and a trailer. **SW**



Unlike Scott's earlier *G.I. Jane*, this film had the full backing of the US military



HCC VERDICT

Black Hawk Down

→ Sony Pictures → Ultra HD Blu-ray & All-region BD → £30

WE SAY: Awesome HDR images, explosive Atmos sound, and heaps of extras help this 4K disc blow all previous releases away.

Movie: ★★★★★

Picture: ★★★★★

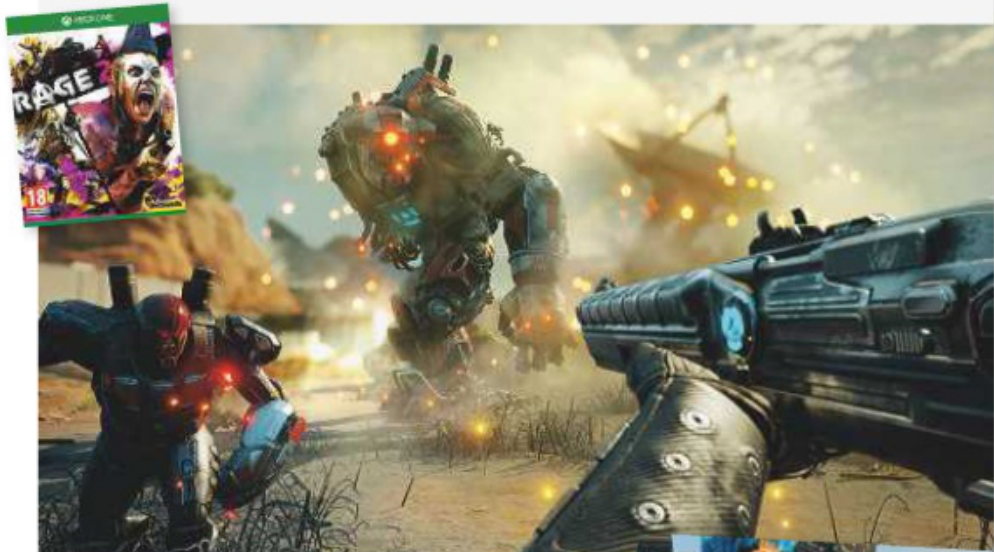
Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

Arcade Action

Bigscreen home entertainment isn't just about movies anymore. **Rik Henderson** checks out a videogame vying for time on your home cinema system...



Rage 2

Bethesda → PS4, Xbox One, Windows PC
→ £55

We have had plenty of long-winded, complex and involving games in recent times; epics that last 140 hours and ask you to invest everything in their plot and gameplay mechanisms. *Rage 2* is not one of those. Instead it's the embodiment of silly, chaotic, laughter-filled fun that will have you giggling with joy throughout.

Yes, its plot and open-world ambitions are largely under-used and vapid, but you really won't care as you deploy fantastic weaponry and supercharged powers to obliterate every enemy in your path. This is first-person shooter action of the highest quality, and that elevates the game above its several caveats.

The main reason for this is that the FPS aspects have been devised by *Wolfenstein* and *Doom* creators iD Software. The latter is very much a blueprint for the action-sequences in *Rage 2*. More so than the game's predecessor, in fact.

Combat is fast-flowing and frenetic, with your character picking up new skills and weaponry upgrades around the truncated open-world map. The upgrade and skills systems even give things a role-playing game feel – careful tweaking of perks, for example, can result in different play styles for the guns on offer.

Other nods to role-playing come through encounters across the game's post-apocalyptic setting with merchants who will buy and sell items to improve your gear and physical talents. However, *D&D* this is not. Everything is either focused on allowing you to perform more preposterous but glorious moves in fire-fights, or just there for further guffaws. You can even buy a commentary patch to have Danny Dyer narrate your game.

It is this lack of pretention that makes *Rage 2* so playable. The decision to hire *Mad Max*'s Avalanche Studios to build the game's driving elements might not have resulted in much, but the rest is so superbly senseless that it doesn't matter.

Even the decision to stick to 1080p on the enhanced games consoles – PS4 Pro and Xbox One X – is forgivable as it allows for a constant 60fps, which benefits combat greatly. And, if you own a decent gaming PC, you get a higher resolution to boot.

Just be aware, though, that the standard PS4 and Xbox One consoles are locked to 30fps, so you will notice an obvious drop in quality. But hey, it's still great fun, no matter the hardware.



Batman vs Teenage Mutant Ninja Turtles

Warner Bros. → All-region BD
£16



Multi-property crossovers are tricky things to get right, even more so onscreen – you only have to look at the *Alien vs Predator* films to see how badly wrong things can go.

This only makes the success of this bizarre team-up all the more remarkable. Across almost 90 energetic, action-packed minutes, this sure-footed, very funny 'toon proves to be an unexpected delight. It also plays brilliantly on Blu-ray, with impressive Full HD visuals and lively DTS-HD MA 5.1 sonics. Best of the limited extras is a look at the staging of the film's fight scenes. **AvB**



Justice League vs The Fatal Five

Warner Bros. → All-region BD
£16



Following in the footsteps of 2017's *Batman and Harley Quinn*, this DTV movie gives fans another chance to revisit the old DC Animated Universe. From the look of the film to the

returning voice cast, *Justice League vs The Fatal Five* feels like a natural extension of the *Justice League Unlimited* cartoon, albeit with a bunch of new heroes and some fruity language ('fart nuggets') thrown into the mix. Add to that a crisp and colourful 1.78:1 Full HD encode, dynamic DTS-HD MA 5.1 mix and a few decent extras (including a filmmakers' commentary) and the result is a treat for fans of the old-school DCAU. **AvB**



The Twilight Zone: 60th Anniversary Edition

Mediumrare Entertainment → Region B BD/R2 DVD
£150 (www.thetwilightzone.co.uk)



It's only a year since Mediumrare released its 23-disc Blu-ray boxset housing all five seasons of the original *Twilight Zone*. Now it's back with a pricey new limited edition. So what does the extra cash get you?

The actual Blu-ray content is the same as it ever was (excellent AV, copious extras), although there's now an exclusive DVD housing two extra docs about Rod Serling and the show. Add to that a bunch of merch (comics, art cards, etc.) and you have a smart set that – at almost three times the price its predecessor now sells for – is for die-hard fans only. **AvB**



4K
ULTRA
HD



Is everything still awesome?

Squabbling siblings build a tale of toxic masculinity in this eagerly-awaited animated sequel

→ THE LEGO MOVIE 2: THE SECOND PART

Hilarious, clever, beautifully animated and packing an unexpectedly powerful emotional punch, *The LEGO Movie* is a modern animated classic. You can't blame this sequel for trying to recapture pretty much exactly the same formula.

Unfortunately, less sophisticated plotting and characterisation leaves this follow-up feeling a bit threadbare at times, and the emotional pay off feels a little forced. That said, you'll still struggle to find an animated film that generates as many laughs, and there are so many background sight gags you'll probably need to watch the film three or four times to spot them all.

Picture: *The LEGO Movie 2* benefits from a good 4K Blu-ray release. Most obviously, the colour palette is far more explosive and dynamic than it is on the Full HD Blu-ray version, as the expanded suite of saturated tones is propelled by a strikingly aggressive 4,000-nit master.

The 4K image doesn't deliver such a significant resolution boost, though. In fact, the slightly misty lighting and deliberate softening of the image's outer edges (to ape anamorphic lens effects) become slightly exaggerated in UHD, making some shots arguably look softer than they do on the Full HD platter. However, close-ups appear more textured and defined despite being upscales from a 2K source.

Audio: Both the 4K and Full HD discs carry an enjoyable Dolby Atmos soundmix. The height and

surround channels aren't exactly hyperactive, but they deliver effective transitions during action set-pieces, and work to create an appropriate sense of space.

Also noteworthy is how accurately dialogue is placed in the front soundstage. Height and left/right channels combine to make voices appear to come from exactly where they should.

It's dynamic, too, with bass that rumbles and slams without becoming over-dominant, as it sometimes did on the *The LEGO Batman Movie*'s Ultra HD Blu-ray release.

Extras: Heading up the bonuses is a commentary track (available on the 4K disc) featuring director Mike Mitchell, writers/producers Christopher Miller and Phil Lord, and animation director Trisha Gum. As you might expect, there's plenty of fun and goofing around – although this does come at the expense of actual filmmaking anecdotes.

Over on the Full HD Blu-ray you'll find a solid, if brief, *Making of...* featurette, followed by a fun short film (featuring Emmet throwing a Christmas party in Apocalypseburg) and a surprisingly substantial selection of extended and deleted scenes. These are worth watching as much for the different stages of the animation process they show as they are for the background they add to the film.

A *Sing-Along* mode offers more than you might expect, backing up its karaoke lyrics with onscreen trivia, games and more. Wrapping things up are a droll lyric video for the film's *Super Cool* song, and a collection of short promo clips. **JA**



This meta-movie sequel is once again packed with cameos and in-jokes



HCC VERDICT

The LEGO Movie 2: The Second Part

→ Warner Bros. → Ultra HD Blu-ray & All-region BD → £35

WE SAY: Not as good as the original, but aggressive HDR and wide colour work help ramp up the fun in 4K.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★



Diabolically good fun for fans

4K release delivers the sonic goods like a sledgehammer punch from a red right hand

→ **HELLBOY II: THE GOLDEN ARMY**

Guillermo del Toro switched studios for this follow-up to 2004's *Hellboy* and, thanks to the success of *Pan's Labyrinth*, he was subject to less studio interference. This is the Hellboy movie del Toro always wanted to make, one that concentrates on the creatures rather than the human characters. It's a visual feast that benefits from a fun plot, plenty of humour, some cracking action, and a good villainous turn from Luke Goss (ex Bros) of all people.

Picture: *Hellboy II: The Golden Army* was shot on 35mm film but finished using a 2K DI, and as a result there initially seems little major difference between the 4K disc and the included Blu-ray.

The digital effects certainly look a little soft, but as you watch the UHD platter you begin to realise there is slightly more detail in the 1.85:1-framed image, and the addition of HDR10 delivers deeper blacks, better shadow delineation, more nuanced colours, and brighter highlights that give the picture a gorgeous film-like quality. A scene like the Troll Market looks stunning, with the lovingly crafted practical creature effects filling every corner of the frame.

Audio: The DTS-HD MA 7.1 track included on the original 1080p release was no slouch, but a new DTS:X track that graces this 4K disc is devilishly impressive. This object-based remix makes full use of the LFE channel, with appropriately monstrous bass. The larger the creature, the bigger its presence, and Hellboy's hand-cannon sounds like a howitzer.

It's a highly active mix as well, one that employs every available speaker to immerse the viewer in



**4K
ULTRA
HD**



A recent attempt at rebooting *Hellboy* without del Toro flopped at the box office

effects, whether it's rain, thunder, crowds, or monsters. And no matter how chaotic the action becomes, these effects are always precise and steered seamlessly. The level of clarity is also excellent, and the dialogue remains clear and focused throughout.

Extras: The Ultra HD Blu-ray includes a brace of commentaries: a solo track from del Toro, the other featuring stars Jeffrey Tambor, Selma Blair and Luke Goss. All of the other features are on the 1080p disc. These include a tour of the Troll Market with del Toro, a quartet of 'U-Control' in-movie interactive features, the production workshop, six deleted scenes, an animated comic epilogue and photo galleries.

Unfortunately, Universal has not included the DVD that was bundled with the 2008 Blu-ray and housed a 155-minute *Making of...* documentary. So you'll have to hang on to that if you're upgrading to 4K but still want all *Hellboy II*'s supplementary goodies. **SW**

HCC VERDICT

Hellboy II: The Golden Army

→ Universal Pictures → UHD Blu-ray & All-region BD → £35

WE SAY: The monstrous DTS:X audio remix makes this one Ultra HD disc worth selling your soul for.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

On the Basis of Sex

Entertainment One → R2 DVD
£20



Lawyer and Supreme Court Justice Ruth Bader Ginsburg isn't exactly a household name on this side of the

Atlantic, but in the US her legacy is such that she even has a cameo in *The LEGO Movie 2*. This dramatic retelling of her court battle for gender equality certainly makes you understand her fame and importance, but it does it in the least inspiring way possible, hammering her story into a bland and predictable biopic template. The film holds up well on DVD (there's no UK BD) with attractive 1.85:1 visuals and detailed DD5.1 sonics. Three short featurettes are also included. **AvB**



24 Hour Party People: Special Edition

Icon → All-region BD
£20



Michael Winterbottom's brilliantly funny and refreshingly irreverent film about the rise and fall of Factory Records

finally makes it to Blu-ray. However, it's worth bearing in mind that it was shot using SD digital cameras, so there isn't much of a picture upgrade to shout about (although the 1080i50 encode looks a little tighter than we expected). The DTS-HD MA 5.1 mix fares better, especially when it comes to the music. Extensive extras ported from the old Pathé DVD include two chat-tracks and a separate video commentary. **AvB**



I Was Monty's Double

Studiocanal → Region B BD
£23



Based on a true story, this lighthearted 1958 war film tells the story of actor M.E. Clifton James (playing himself),

who was recruited to impersonate General Montgomery to mislead the Germans in the run-up to D-Day. While no classic of the genre, it's a fascinating story, told in an amiable manner – at least until the need for a dramatic dénouement results in a rather far-fetched run-in with German commandos. This Blu-ray handles the black-and-white photography rather well, although the LPCM mono audio is harsh at times. A chat with historian Terry Crowdy is the best of the extras. **AvB**



How I Won the War

BFI → Region B BD & R2 DVD
£20



Best known for having John Lennon in its cast, Richard Lester's 1967 bitter black comedy stars Michael Crawford

as the bungling army officer recounting how he (spoiler alert) won World War II. Less a straight narrative than a series of satirical or just plain surreal 'skits' involving the same characters, it at times resembles the sort of film the Pythons would go on to make – only far more jarring and angry in its approach. While colourful, the Blu-ray's 1.66:1 encode suffers from an abundance of speckles and small marks. Intriguing extras include a commentary and four shorts from the BFI vaults. **AvB**



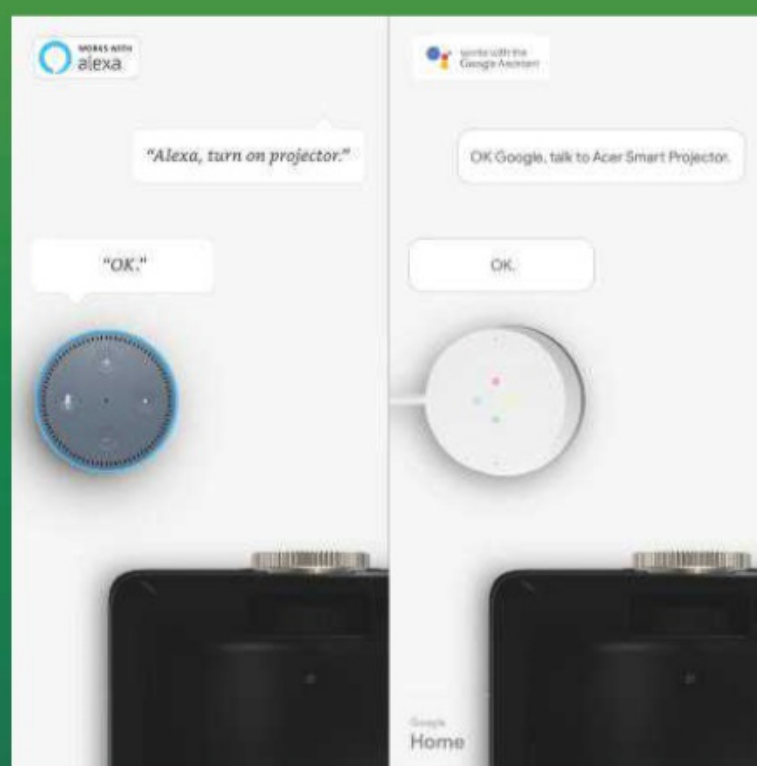


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Definitely not the day to be caught sleeping on the job...



Scott makes a meal of sequel

This 4K upgrade dishes up a lovely image, but the film remains something of an acquired taste

→ HANNIBAL

How did a film based on a novel by Thomas Harris, adapted by David Mamet, directed by Ridley Scott, and starring Anthony Hopkins end up being this disappointing?

The problem mainly lies with the bonkers source novel, which Jodie Foster disliked so much she passed on this sequel. The character of Hannibal Lector is like a rich desert best eaten in small portions; give him too much screen time and he stops being scary, instead coming across as a demented gastronome. This film has none of the procedural excitement of *Manhunter*, nor the Gothic thrills of *The Silence of the Lambs*, instead it's a twisted 'love story' that leaves a bad taste in the mouth.

Picture: *Hannibal* was shot on 35mm film and this release is based on a 4K restoration of the original camera negative. The differences between the UHD platter and the included remastered Blu-ray are immediately apparent, despite the latter already being a step-up from previous 1080p versions. Unusually for Ridley Scott the film is framed at 1.85:1, because the director wanted to retain visual continuity with *The Silence of the Lambs*.

It's a cracking transfer that's free of any compression issues or other unwanted digital artefacts. There's also a significant increase in detail, with close-ups in particular benefiting from the added resolution. Skin pores and clothing weaves are sharply defined, while Gary Oldman's incredible make-up job looks disgustingly realistic in 4K. There's



HCC VERDICT

Hannibal

→ Kino Lorber → Ultra HD Blu-ray & Region A BD → £19 (US import)

WE SAY: This US-only release serves up 4K images and a smorgasbord of extras sure to please fans of Ridley Scott's cannibalistic curio.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

a pleasing film-like quality, and a healthy sheen of grain that isn't exaggerated by the addition of HDR10 and Dolby Vision.

Thanks to the use of HDR, the contrast is especially impressive with bright highlights and much deeper blacks that really enhance the tone of the film. Some of the whites deliberately bloom and the blacks occasionally crush, but it's a stylistic choice rather than a fault of the transfer. Colours are noticeably more saturated and nuanced, resulting in a fantastic overall image that perfectly captures the film's decidedly grotesque set-pieces.

Audio: The least impressive aspect of this 4K release is the audio, which appears to be the same DTS-HD MA 5.1 lossless soundtrack that graced the previous Blu-ray releases. Still, it's a solid multichannel mix, with clear dialogue and precise effects. Hans Zimmer's effective score is spread across the front soundstage, while the fish market shootout provides plenty of surround action.

Extras: The 4K platter includes an insightful commentary from Ridley Scott, but all the other extras are on the bundled Region A Blu-ray.

It's an impressive selection of culinary delights, too, all taken from the Special Edition DVD release (which explains why they're in standard-definition). There's a feature-length *Making of...* documentary; a multi-angle breakdown of the opening shootout; a featurette on the storyboarding; a look at the film's opening title design; 13 deleted alternate scenes; an alternate ending with commentary from Scott; two trailers; and 19 TV spots. **SW**

Mega Time Squad

Arrow Video → Region B BD
£25



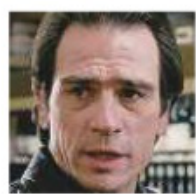
A small-town criminal uses a mysterious Chinese bracelet to travel back in time and recruit multiple versions

of himself to form his own gang in this quirky low-budget New Zealand comedy. It's just a shame that writer-director Tim van Dammen doesn't seem to know where to go with the setup, resulting in an amiable flick that never feels as funny as it should. Arrow's Blu-ray looks and sounds as good as you'd hope, but the extras (chat-track, isolated score, short interview and trailers) fall a little short of what we've come to expect from the label. **AvB**



Black Moon Rising

Arrow Video → Region B BD
£25



A master thief (Tommy Lee Jones) must break into a skyscraper to 'reclaim' a hydrogen-powered supercar from

a crime boss (Robert Vaughn) in this so-so 1986 action-thriller based on a script by John Carpenter. Based on a 2K scan of the 35mm interpositive, Arrow's Blu-ray is sharp and detailed, but still exhibits some print damage and runs a little hot in brighter scenes. Lalo Schiffrin's score remains the highlight of both the LPCM stereo and remixed DTS-HD MA 5.1 soundtracks. The disc is also loaded with terrific extras, including an exploration of Carpenter's career as a screenwriter. **AvB**



Nightfall

Arrow Academy → All-region BD
£25



It may not be director Jacques Tourneur's finest film noir (that accolade still rests with 1947's *Out of the Past*),

but there's a lot to enjoy about this hard-boiled 1957 tale of an artist (Aldo Ray) on the run from a pair of gangsters who think he knows the whereabouts of some stolen loot. This impressive Blu-ray brings the best out of the film's stylish black-and-white photography, although the LPCM 1.0 soundtrack is a little quiet and needed turning up well above the usual reference setting. An assortment of scholarly extras includes a chat-track and two video essays. **AvB**



November

Montage Pictures → Region B BD
& R2 DVD → £13



Already a hit on the festival circuit, Rainer Sarnet's strange, surreal and surprisingly funny

Estonian folktale will hopefully find an even larger audience thanks to this affordable Blu-ray release. It doesn't hurt that the film looks absolutely sensational, with a crisply delineated, contrast-rich 1.78:1-framed 1080p encode. An LPCM 2.0 soundtrack packs plenty of heft in its low-end. Disc-based bonus features are limited to a pair of trailers, but Montage Pictures adds a 20-page booklet containing a written appreciation of the film. **AvB**



Science-fiction thriller goes viral

Michael Crichton adaptation is more contagious than ever thanks to this new restoration

→ THE ANDROMEDA STRAIN

A US satellite carrying a lethal alien hitchhiker crashes in a small New Mexico town, potentially spelling the end of the human race. While this sounds like the setup to any number of 1950s B-movies (*The Blob* being the obvious example), Robert Wise's 1971 sci-fi thriller *The Andromeda Strain* is a very different beast.

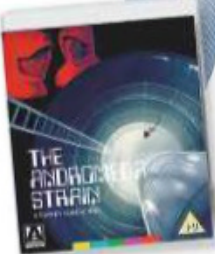
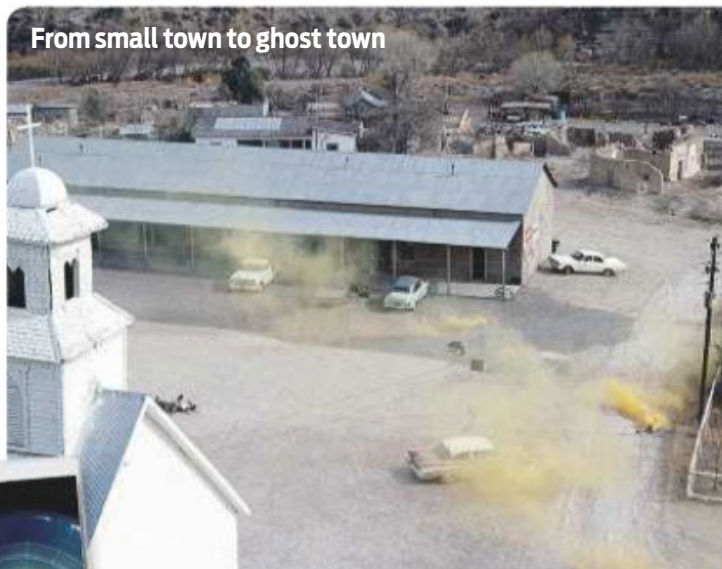
Instead of some giant rampaging monster, *The Andromeda Strain* concerns itself with a microbial alien virus. More specifically, it focuses on the team of scientists sequestered at an isolated research station to study the organism and try to work out how to stop it.

Based on a novel by Michael Crichton, it's no surprise *The Andromeda Strain* is as interested in the technology and methodology employed as part of the scientific process as it is with the threat itself. What is surprising, however, is how well this translates to the screen as a gripping drama. Credit for this success rests largely on the shoulders of the film's director. As much as Wise was often an anonymous presence on other films (*The Sound of Music*, anyone?), the unusual camera work and rhythmic editing he utilises here give the otherwise 'talky' drama a thrilling visual dynamism and propulsive flow.

Picture: Arrow's 2.40:1-framed 1080p presentation of *The Andromeda Strain* is a huge improvement on the old HD master that Universal used for the Blu-ray it put out in various territories several years back.

Restored in 4K from the original 35mm negative, the film exhibits none of the telecine wobble and

From small town to ghost town



constant dirt that afflicted that earlier release. Instead we get improved detailing, more robust colours (most notably in the red-walled Level 1 of the Wildfire facility) and a more organic, film-like appearance in general.

Audio: There's no sign of the six-track mix that was reportedly created to accompany 70mm prints of the film, so instead we have the familiar mono track that has accompanied all other releases. The good news is that this, too, has been restored (from the original optical negatives) and sounds as true to the source as you could hope for. Gil Mellé's atonal electronic score is perhaps the biggest beneficiary.

Extras: In addition to the *Making of...* and profile of author Michael Crichton made for the 2001 DVD, Arrow adds a commentary; a video essay about 'outbreak' films; the illustrated script (in both gallery and PDF form); the trailer; three TV spots; two radio spots; two image galleries; and a booklet. **AvB**



HCC VERDICT

The Andromeda Strain

→ Arrow Video → Region B BD
→ £25

WE SAY: This smart science-fiction thriller should infect plenty of new fans with this superb release.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★



Randall wasn't at all sure his new cricket bat would meet ICC regulations



'You gotta keep on livin'...'

Richard Linklater cranks up the 1970s nostalgia for this fun trip into the teenage wasteland

→ DAZED AND CONFUSED

Attempting to sum up the plot of Richard Linklater's cinematic flashback to the 1970s is a tricky thing to do. Mainly because it doesn't really have one. Just like its youthful cast of characters, *Dazed and Confused* is content to drift along, going wherever the flow takes it.

Taking place entirely within a 24-hour period, the film follows groups of Texas teenagers finishing their last day of school in 1976 and kick-starting the holidays with a party. That's really all there is to it – it's not the last time they'll ever see each other, nor is there the threat of a looming war hanging over them. Okay, so the freshmen have hazing rituals to endure and one of the seniors (Jason London's star football player Randall) must decide whether or not to sign a 'pledge' to not take drugs over the summer. But all they really want to do is have fun – and if some of them to learn something about themselves along the way, then so be it.

None of this should be taken as a criticism, however. Made with love, humour and honesty, *Dazed and Confused* is an infectiously enjoyable nostalgia trip that will make you laugh and cheer as you experience life with its richly drawn characters. At which point it's necessary to give a shout-out to the film's young cast (including breakout roles for Ben Affleck and Matthew McConaughey), all of whom inhabit their characters to such a degree that you could easily believe you're watching something shot in 1976 rather than 1993.



HCC VERDICT

Dazed and Confused

→ The Criterion Collection

→ Region B BD → £28

WE SAY: The definitive Blu-ray edition of this brilliantly playful coming-of-age movie.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

Picture: *Dazed and Confused* made its Blu-ray debut in 2011 courtesy of Universal Pictures. Although that disc didn't look too bad compared to some of the studio's other catalogue titles, the HD master prepared for this Criterion Collection Blu-ray (which hit the US only a couple of months after Universal's release) is a clear upgrade.

Supervised by Richard Linklater and director of photography Lee Daniel, the AVC 1.85:1 Full HD image on this Blu-ray has a much more organic film-like appearance. Contrast doesn't run quite as hot and colours also look more natural, resulting in far more healthy flesh-tones and a bolder palette for the '70s fashions and settings. Only some instances of edge enhancement hold it back from a higher score.

Audio: On the other hand, this disc's DTS-HD MA 5.1 mix appears to be identical to that included on the earlier Universal BD. Not that it's a problem, as it remains a pleasingly atmospheric affair that handles dialogue and, especially, the all-important music (including the likes of Foghat, Alice Cooper, Kiss and Black Sabbath) with depth, range and precision.

Extras: Universal was pretty stingy with extras on its disc, offering just some deleted scenes, two archival PSAs, an anti-drugs parody and a U-Control feature providing info on the songs in the film.

As you'd expect, Criterion improves significantly on that. This disc delivers a director's commentary; an extended set of deleted scenes; audition footage; a 45-minute *Making of...* documentary; behind-the-scenes footage; cast and director interviews; the trailer; and a booklet featuring a trio of essays. **AvB**



Top-class entertainment

Film fanatics should make room for this Blu-ray in their disc collections

→ ROOM AT THE TOP

Cocky womaniser Joe Lampton (Laurence Harvey) arrives in the Yorkshire town of Warnley to begin a civil service job, while dreaming of making it big and leaving his working class roots behind him. Ignoring the advice of a colleague, Joe soon sets his sights on seducing Susan Brown (Heather Sears), daughter of a wealthy factory owner. However, an affair with an unhappily married older woman (Simone Signoret), soon threatens to derail all of his plans.

Arriving in UK cinemas in early 1959, this bigscreen adaptation of John Braine's novel of the same name helped usher in a new era in British cinema. From its frank approach to sex to its unflinching handling of themes around class and social mobility, *Room at the Top* pushed at the boundaries of what was permissible on film and introduced a new tradition for X-certificate 'adult' drama. In doing so it struck a chord with audiences and critics alike, hitting pay dirt at the box office and scooping a fistful of awards including the BAFTA for Best British Film and Oscars for Best Actress in a Leading Role (Signoret) and Best Adapted Screenplay.

Picture: The booklet accompanying this release doesn't provide much detail about the source material used for the Blu-ray, beyond stating that '*Room at the Top* was supplied to the BFI in High Definition by Park Circus'. Little matter, as the disc's 1.66:1 Full HD encode is very good, with the authentic-seeming contrast and brightness settings resulting in an excellent greyscale palette. Fine detailing is ever-present, as is the film grain you would expect from something shot on 35mm film



stock. There's also very little in the way of dirt or scratches, indicating that the film has undergone some sort of restoration work along the way.

Audio: The Blu-ray's LPCM 2.0 dual-mono audio offers an accurate presentation of the original sound design. Dialogue, music and ambient effects are all pleasingly balanced and there are no issues with damage or distortion.

Extras: The audio commentary by film historian Neil Sinyard recorded for Network's 2009 DVD release is complemented here by a brand-new track from BFI Fiction Film Curator Dr. Josephine Botting.

Other disc-based extras include a trio of galleries (publicity photos, Jack Clayton's collection of press cuttings and, best of all, test screening audience reaction cards); the trailer; the touching 1959 short film *The Visit*; and a collection of six film extracts and shorts shot in Yorkshire between 1896 and 1969. A 28-page booklet is also included. **AvB**



Laurence Harvey reprised the role of Joe Lampton in the 1965 sequel *Life at the Top*

HCC VERDICT

Room at the Top

→ BFI → Region B BD & R2 DVD
→ £20

WE SAY: An impressively mounted Blu-ray package for a landmark film in the history of British cinema.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

La Ronde

Bluebell Films → All-region BD
£18



Max Ophüls' celebrated 1950 depiction of the merry-go-round of love and infidelity is precisely the sort of classic film

that, if done right, could make people sit up and take notice of an up-and-coming Blu-ray label. Sadly, despite claims of being based on a new restoration, this release falls short in most areas. While the 1.33:1 image has cleaned up nicely, there are issues with macroblocking and grain rendering that may stem from a decision to use the MPEG-2 codec. There's no lossless audio either, just a Dolby Digital mono mix, while a stills gallery (containing just 10 images) is the sole extra. **AvB**



The Heiress

The Criterion Collection → Region B BD
£28



Olivia de Havilland gives an award-winning performance as a shy, wealthy young woman who falls in love with

a penniless young man (Montgomery Clift), much to the chagrin of her father (Ralph Richardson), in this powerful and polished drama from director William Wyler. Based on a new 4K restoration, Criterion's pristine 1.37:1-framed Full HD presentation of this 70-year-old film is a revelation, while a remastered LPCM 1.0 track provides suitable aural support. A discussion of the film by screenwriter Jay Cocks and critic Farran Smith Nehme heads up the bonus material. **AvB**



The Running Man

Arrow Academy → Region B BD
£25



Not the 1987 Arnie movie, this largely forgotten 1963 thriller from *The Third Man* director Carol Reed stars Laurence Harvey and Lee Remick as a married couple who flee to

Spain to live off a life insurance payout after the husband fakes his own death. However, a chance encounter – or is it? – with a holidaying insurance agent (Alan Bates) soon puts a wrinkle in their carefully laid plans. Presented in 2.35:1, the Blu-ray encode is generally impressive, although the HD master exhibits minor dirt and a couple of instances of staining. Informative extras include a chat-track, isolated score and interviews. **AvB**



Netflix's Desperate Housewives

Christina Applegate and Linda Cardellini provide the spark in this black comedy melodrama

→ DEAD TO ME: SEASON ONE

With its short running time (around 30 mins a pop) and ten-part structure, *Dead to Me* is the perfect binge watch. Every episode ends on a cliffhanger and it's all too easy to autoplay into the next.

Grieving Orange County real estate agent Jen Harding (Christina Applegate) and retirement home worker Judy Hale (Linda Cardellini) meet at a support group for those who have lost loved ones. They seemingly have little in common. Applegate is determined to discover who killed her husband in a hit-and-run, and with the cops apparently uninterested in the case, she decides some amateur sleuthing could be cathartic. Cardellini handles her loss in a different way, quipping through trauma. The two strike up an unlikely friendship.

One of the joys of *Dead to Me* is the chemistry between the leads. TV veterans Applegate and Cardellini wring every drop of drama from the quirky material. Almost without realising it, you're invested in their relationship, savouring every bounced barb. But this isn't the show it first appears to be.

The plot writhes like a thing alive, as creator and showrunner Liz Feldman effortlessly wrong-foots her audience. She even has the nerve to drop a big revelation early, but still the surprises keep coming. *Dead to Me* has more twists than a Chubby Checker marathon.

While this is mainly a two-woman masterclass, look out for Ed Asner, who makes a welcome return to the smallscreen as Abe Rifkin, Judy's retirement home confidant.



Picture: Cinematographer Daniel Moder (graduating from camera operator roles on *Déjà Vu* and *Spider-Man 3*) ensures the show is suitably filmic. Framed wide and available in 4K HDR (or Dolby Vision if your device supports it), it's very easy on the eye.

The HDR grading turns up the heat on the Californian sun, and holds plenty of detail in the dark.

A good deal of the drama happens at night, so you'll not be left wondering who did what, even if the why and when is unclear.

Audio: A perfectly serviceable 5.1 surround mix makes good use of atmospheric effects across the rear, with some effective front-to-back steerage and well-handled dialogue.

The soundtrack will immerse you in the convoluted world of its two protagonists – just don't expect a big return on investment for your subwoofer.



Ed Asner (above) is perhaps best known for playing Lou Grant in *The Mary Tyler Moore Show* and his self-titled spinoff

HCC VERDICT

Dead to Me: Season One

→ Netflix Original

WE SAY: This superior show's sense of humour may be pretty dark, but its 4K HDR visuals are anything but.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

OVERALL: ★★★★★

→ EXTREMELY WICKED, SHOCKINGLY EVIL AND VILE

→ Sky Cinema

Zac Efron's transition from teen heart-throb to serious actor is now surely complete – the former *High School Musical* lead now finds himself starring in (and producing) a biopic of infamous American serial killer Ted Bundy.

Extremely Wicked..., simultaneously given streaming/satellite and cinema distribution in the UK by Sky Cinema, tries hard not to be a by-the-numbers true crime effort. The story of Bundy's 1970s murder spree and eventual capture/trial is presented here from the viewpoint of his former girlfriend Liz Kendall (Lily Collins), and her emotional turmoil as she veers between believing in his innocence and sensing the truth.

Director Joe Berlinger has a background in documentaries, which may be why this cinematic endeavour lacks the narrative drive and more assured structure that others might have brought to the material. The decision to mainly keep Bundy's

exploits off-camera plays its part here, although that's no doubt the right one, given his particular notoriety in the US and the abhorrent nature of his crimes.

In conjunction with some good work by cinematographer Brandon Trost (*Crank 2: High Voltage*, *Ghost Rider: Spirit of Vengeance*), Berlinger has no trouble building an evocative, period piece, and the 5.1 sound design and UHD visuals via Sky merit firing up your AV setup.

But what should put this on your possible watchlist is the performance from Zac Efron. Bundy was known for his charisma, and it's a facet the actor easily conveys while also suggesting hidden, dark depths behind the smile. He handles Bundy's emotional ups and downs with aplomb, conveys his disconcerting swagger in the courtroom scenes, and keeps your attention to the end.



The Big Bang Theory's Jim Parsons (bottom) plays prosecuting attorney Larry Simpson

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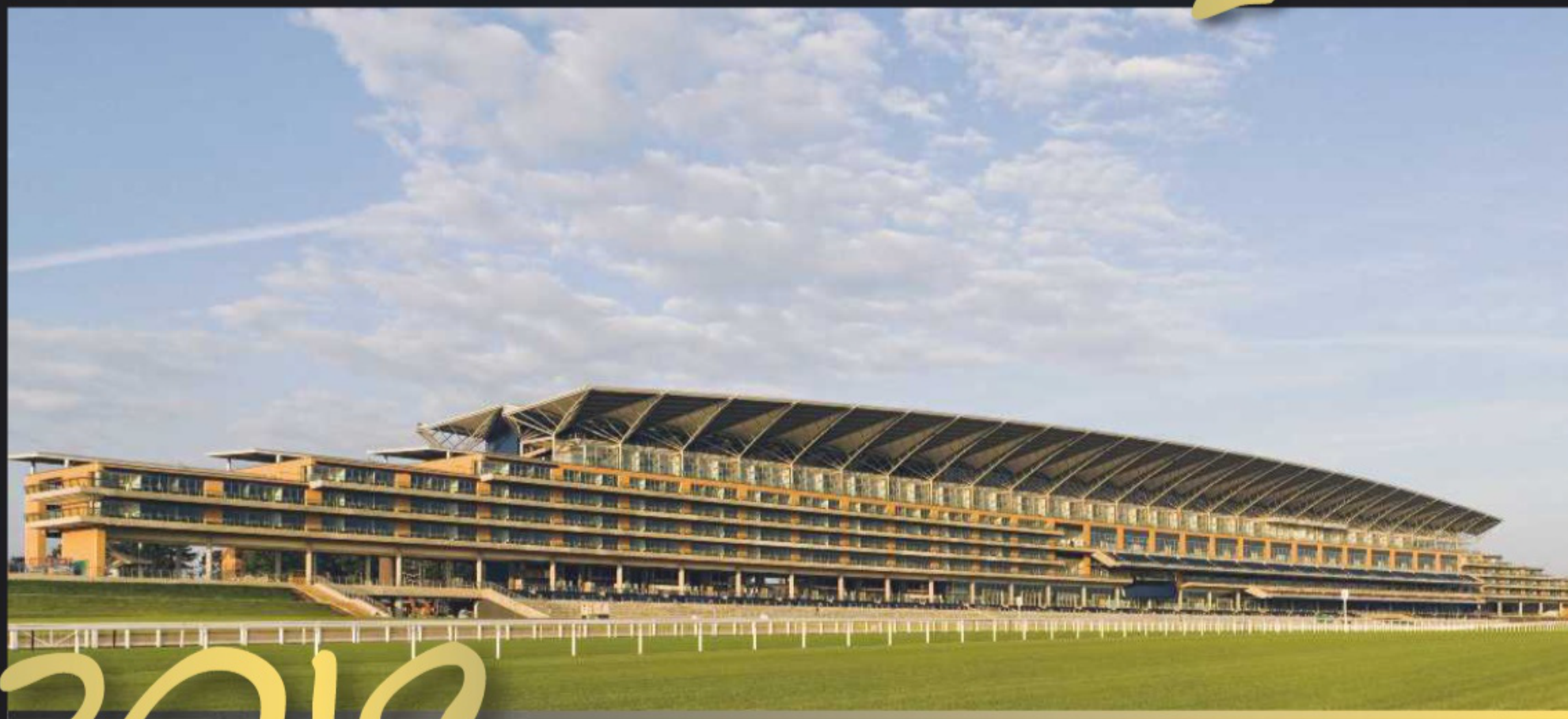
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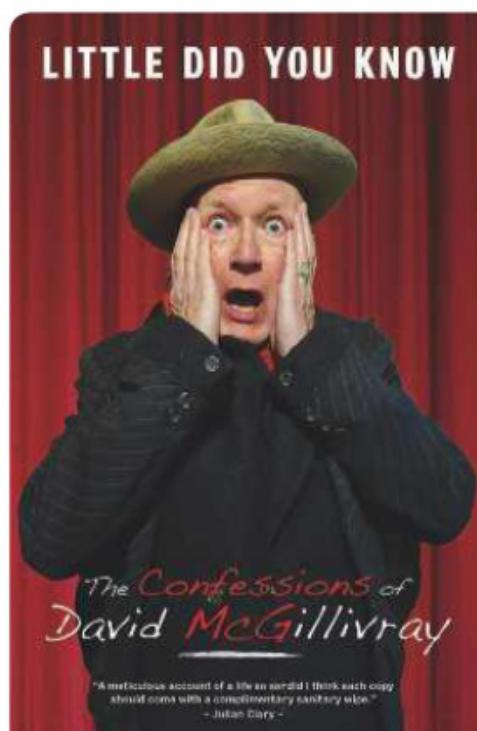
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From cinema to plain old sins

Screenwriter. Actor. Critic. Criminal. David McGillivray bares all in this self-deprecating memoir



The McGillivray-scripted *Satan's Slave* and *Terror* are featured in Indicator's *Bloody Terror: The Shocking Cinema of Norman J. Warren* Blu-ray boxset, due for release on July 22

→ LITTLE DID YOU KNOW: THE CONFESSIONS OF DAVID MCGILLIVRAY

David McGillivray → FAB Press → £20

As the screenwriter responsible for such cinematic treats as *House of Whipcord*, *Frightmare* and *Satan's Slave*, and the author of *Doing Rude Things: The History of the British Sex Film*, David McGillivray is something of an icon for fans of 1970s British exploitation cinema. But this is only part of McGillivray's fascinating and occasionally scandalous life, and one that he gleefully lifts the lid on in this new memoir.

Split into six sections – Overview (1947-2015), Overture (1947-1964), Overawed (1964-1972), Overworked (1972-1994), Overexcited (1994-2002) and Over (2002-2015) – the book draws from McGillivray's lifetime of detailed diary keeping to chart the ebbs and flows of a career that has also taken in acting, reviewing softcore films for the BFI's *Monthly Film Bulletin* and writing jokes for Julian Clary among its frequent unexpected turns (the author has a self-confessed knack for getting sacked).

As you'd hope, McGillivray discusses it all with terrific elan and wit. He doesn't shy away from the most private aspects of his life, either, discussing with great honesty (and no shortage of detail) his difficulties coming to terms with his sexuality throughout the early part of his life.



Girls behind bars in *House of Whipcord*



However, it's the last section of *Little Did You Know...* that lives up to its title and will no doubt take even McGillivray's biggest fans by surprise. Here he relates his latter day 'career' as a drug dealer; selling cocaine to actors, musicians and lawyers and hosting seemingly never-ending parties of excess at his

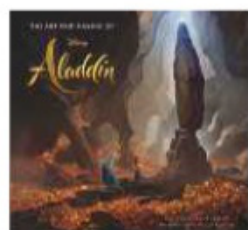
King's Cross home. Although you can see the seeds being planted early in his life, it's still a somewhat shocking turn of events – but even then, McGillivray is unrepentant and chooses instead to celebrate it as just another step in a very unusual, but wildly entertaining, life.

www.fabpress.com



The Art and Making of Aladdin

Emily Zemler → Titan Books
£35



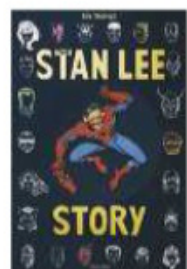
Much like director Guy Ritchie's live-action remake of *Aladdin*, this book charting its creation is a handsome

but not especially exciting affair. All of the major bases are covered, from costumes to production design, backed up by copious amounts of artwork and interviews with all the principal players. However, the most interesting part of the book actually turns out to be the least visual: there's an interview with composer Alan Menken (also see p9 in this issue) that looks at the re-development of the original animated feature's iconic songs.

www.titanbooks.com

The Stan Lee Story

Roy Thomas → Taschen
£150



Originally published as a signed Collector's Edition (which apparently sold out its entire run within its first week on sale), this lavish celebration of the life and work of the godfather of Marvel Comics returns as an 'unlimited XXL edition.' As well as telling the late great Stan Lee's life story – from growing up in Depression-era New York, through his revolutionary tenure at Marvel and up to his time as CCO of POW! Entertainment – this oversized tome written by fellow Marvel Comics legend Roy Thomas is also an extensive treasure trove of comic book art and photographs from Lee's family archives. Excelsior!

www.taschen.com

LEGO Stranger Things: The Upside Down

The LEGO Group → £180



Following on from last year's James Bond Aston Martin DB5, The LEGO Group continues to move away from exclusively child-friendly licenses with this set based on Netflix's hit sci-fi-horror series. Arriving with a 16+ age rating on its box, this inventive 2,287-piece set takes the idea of 'The Upside Down' literally, and allows fans to flip between the Byers' home and a gloomy alternate dimension version of the location that hangs below it (both packed with iconic props from the show). The set also includes a buildable police cruiser, plus minifigure versions of Eleven, Mike Wheeler, Lucas Sinclair, Dustin Henderson, Will Byers, Joyce Byers, Chief Jim Hopper and the Demogorgon!

shop.lego.com/en-GB

Collecting...

Killers on the loose

Fresh from *Hannibal* on 4K Blu-ray, **Team HCC** profiles ten more murderous movies where the thrills are mixed with grisly spills...

PEEPING TOM

The tale of a disturbed wannabe filmmaker who uses a modified camera setup to murder women while recording the terrified look on their faces, *Peeping Tom*'s lurid mix of sex and violence was greeted with moral outrage by the British press when it hit cinemas in 1960. So bad were the critical brickbats thrown at the film they pretty much ended the career of director Michael Powell, but in the following decades *Peeping Tom* has undergone a reappraisal, and now deservedly pops up on lists of the greatest British movies of all time.

Get it: The best release remains Studiocanal (née Optimum Home Entertainment)'s restored 50th Anniversary Edition UK Blu-ray, released back in 2010. However, some obvious noise reduction means there is scope for further improvements.



THE SILENCE OF THE LAMBS

Anthony Hopkins stepped into the shoes of cannibalistic serial killer Hannibal Lecter for this intense gothic-horror-police-procedural from director Jonathan Demme. Jodie Foster – as the young FBI agent tasked with securing Lecter's help in stopping another serial killer – also excels in a film that was a box office sensation despite its gruesome narrative.

Get it: Last year's US-exclusive (Region A) Criterion Collection BD features a new 4K restoration and heaps of tasty extras.



10 RILLINGTON PLACE

The usually lovable Richard Attenborough plays against type, portraying real-life killer John Christie, in this disturbing 1971 crime drama from director Richard Fleischer. As much a powerful indictment of capital punishment as a shocking thriller, *10 Rillington Place* is a film that stays with you long after the end credits roll.

Get it: As well as an authentically grimy 4K restoration, Indicator's UK Blu-ray houses a pair of chat-tracks, plus a new interview with actress Judy Geeson.

TOP PICK



ZODIAC

A 2007 masterpiece from director David Fincher, following the decades-long investigation into the 'Zodiac Killer' by newspaper cartoonist-turned-sleuth Robert Graysmith (Jake Gyllenhaal). Runs for nearly three hours, but never once falters.

Get it: Only released on Blu-ray in a slightly longer 'Director's Cut' form, accompanied by a brilliant slate of featurettes, docs and commentaries. Note the US version puts extras on a second disc and introduces a lossless audio track.



M

Inspired by real events, director Fritz Lang's 1931 classic *M* revolves around the hunt for a child killer (a mesmerising turn from Peter Lorre) stalking Berlin, with even the criminal underworld getting involved due to the disruption caused by the increased police activity.

Get it: Criterion's 2010 US Blu-ray and Eureka's 2011 UK platter are based on the same source, but there are differences in the extras. A subsequent German BD claims to be based on a more complete restoration of the film.



MONSTER

Charlize Theron won the Best Actress Oscar for her portrayal of serial murderer Aileen Wuornos in this finely crafted 2003 independent drama from future *Wonder Woman* director Patty Jenkins. Theron's committed performance/physical transformation stands out, but so does the script, which manages to thrill, sadden and repulse in equal measure.

Get it: Never given a UK BD outing – the definitive release is possibly Metrodome's triple-disc DVD that includes two documentaries about Wuornos by Brit filmmaker Nick Broomfield.



MANHUNTER

Michael Mann's 1986 adaptation of Thomas Harris's *Red Dragon* novel flopped on release, but found an appreciative audience on video. Every bit as stylish and suspenseful as you would expect from Mann, *Manhunter* is also notable for Brian Cox's more restrained and sinister take on Hannibal 'Lector'.

Get it: Shout Factory's Region A-locked two-disc Collector's Edition includes HD versions of both theatrical and director's cuts (albeit with clearly uprezzed additional footage in the latter), plus a bunch of new interviews.



SERIAL MOM

Cult filmmaker John Waters turned his satirical eye to the true crime genre and the US obsession with murderers in this hysterical 1994 tale of a suburban mother (Kathleen Turner) who takes any slights against her family very, very personally.

Get it: *Serial Mom* has never been treated well in the UK (even the DVD was cropped to 1.33:1) so the lack of a Blu-ray isn't surprising. However, multi-region capable fans can console themselves with Shout Factory's Region A Collector's Edition US Blu-ray, which serves up a director's commentary and other extras.



SE7EN

An earlier (1995) David Fincher feature, pitting two detectives (Morgan Freeman and Brad Pitt) against a serial killer inspired by the Seven Deadly Sins. Fincher and script writer Andrew Kevin Walker create a dark, rain-soaked, nightmarish thriller, with a smart plot that has a sting in its tail...

Get it: Warner's good-looking Blu-ray carries across all the extra features (include four commentary tracks) from *Se7en*'s two-disc DVD outing, and upgrades the soundmix to DTS-HD MA 7.1. Also released as a Zavvi-exclusive Steelbook.



I SAW THE DEVIL

A government agent becomes involved in a deadly game of cat-and-mouse with the killer who murdered his fiancée in this brutal, bloody and unexpectedly beautiful Korean revenge-thriller from director Kim Jee-Woon.

Get it: Studiocanal's 2011 UK Blu-ray houses a gorgeous Full HD presentation of the original Korean theatrical cut, plus a handful of extras. The only English-friendly version of the alternate 'International Cut' (which amps up the violence even further, but cuts some other scenes) is the Region A US Blu-ray released by Magnolia Pictures.

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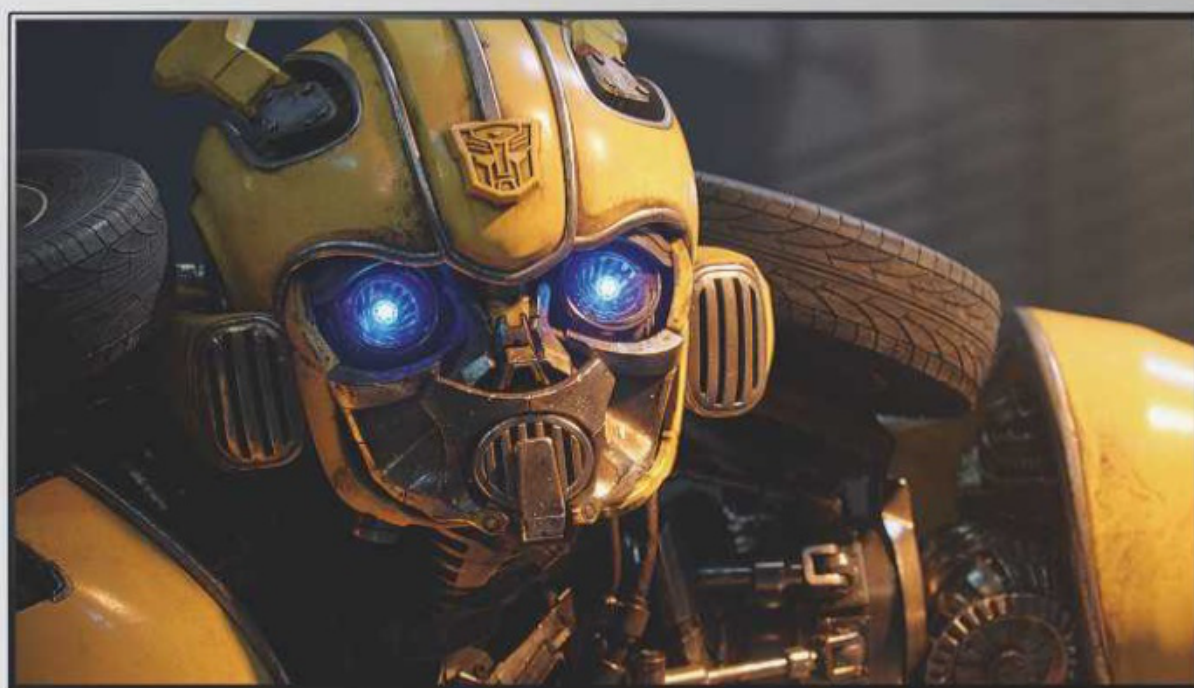
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Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★★☆☆
Dire	★★★☆☆

All prices quoted are approximate and may have changed

TOP 15 Televisions

01



NEW ENTRY

LG 65OLED9 → £3,300 ★★★★★

LG continues to evolve its mid-range OLED proposition, fine-tuning image processing, audio performance and smart skills to deliver an excellent all-rounder. HDMI 2.1 brings some feature tricks, too. *HCC #299*

TOP 5 Blu-ray movies


Spider-Man: Into the Spider-Verse [UHD Blu-ray]

This Spider-Man 'toon feels fresh thanks to its comic book aesthetic, and on 4K BD it's given a colour/contrast-rich HDR presentation and excellent Dolby Atmos soundmix. *HCC #298*

★★★★★


Robin Hood [UHD Blu-ray]

The movie is a disappointment, but Lionsgate shows the way forward by providing both HDR10+ and Dolby Vision encodes. Image quality – derived from 8K cinematography – is stunning. *HCC #298*

★★★★★


Bumblebee [UHD Blu-ray]

Enjoyable *Transformers* spin-off revels in '80s nostalgia and a heart-warming narrative. Paramount's 4K BD packs a seismic Dolby Atmos mix, colourful visuals and a fine selection of extras. *HCC #299*

★★★★★


Aquaman [UHD Blu-ray]

Perhaps the best example yet of the potential of wide colour and HDR technologies, Warner's UHD platter dazzles from start to end. Bassy Atmos audio and plenty of bonus features complete an impressive package. *HCC #298*

★★★★★


The Favourite

Wonderfully witty historical black comedy with an Oscar-winning turn from Olivia Colman as Queen Anne. Solid 1080p encode and ambient DTS-HD 5.1 audio, but a meagre selection of bonus bits. *HCC #299*

★★★★★



Samsung QE65Q90R → £3,800 ★★★★★

The Korean giant's premium 4K HDR TV continues to showcase the colour and brightness talents of QLED tech, and improves black level delivery and upscaling via panel/processing upgrades. *HCC #298*



Philips 65OLED903 → £3,500 ★★★★★

Take impressive audio from a B&W-designed speaker array, OLED-delivered 4K HDR visuals that outshine the competition, and add a sprinkle of Ambilight, and you get the most exciting display Philips has ever released. *HCC #290*



Panasonic TX-65FZ852
→ £3,000 ★★★★★

4K HDR OLED (with HDR10+ support) that offers subtlety and refinement in spades (particularly with colour presentation and near-black handling), making up for a slight lack of dynamic punch. *HCC #290*



Samsung QE85Q900R
→ £15,000 ★★★★★

It's frighteningly expensive and you won't find any native content to play on it, but Samsung's 85in 8K debutant still wows. Ultra bright and an excellent upscaler of 4K sources. An upgrade to HDMI 2.1 is promised. *HCC #292*



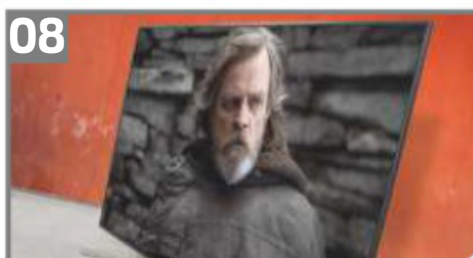
Philips 43PUS6753
→ £430 ★★★★★

Sharp, colour-rich, direct-LED images, plus Ambilight and Philips' bespoke SAPHI smart system, make this 43in 4K HDR LCD a smallscreen(ish) dream. Superb option for a second-room/budget setup. *HCC #291*



Sony KD-55AF9
→ £3,000 ★★★★★

Pricier than most 55in OLED rivals, but this Master Series Sony has a unique style, effective 'invisible' audio solution, Dolby Vision/Atmos support and lush 4K visuals. Good new Android OS, too. *HCC #292*



Sony KD-55XF9005
→ £1,700 ★★★★★

Impressive backlighting, dynamic HDR images and top-quality motion processing are the major draws of this mid-tier Bravia. Android OS still needs improvement, though. *HCC #285*



Samsung QE65Q85R
→ £3,000 ★★★★★

Reducing the number of local dimming zones versus the Q90R weakens backlighting precision, but otherwise this step-down model is highly desirable. Bright, sharp and well contrasted. Smarter design, too. *HCC #299*



Hisense H75U9A
→ £3,500 ★★★★★

This 75in LED is the brightest display we've seen, yielding benefits with HDR content, while backlit illumination aids black levels. Sharpness and colour delivery are less impressive, but the price/size ratio is good. *HCC #289*



Hisense 55A6200
→ £430 ★★★★★

A great value option, despite brightness levels not doing justice to its HDR support. Visuals are sharp with solid black levels and finessed colour handling. 4K apps and decent audio round out the package. *HCC #295*



Hisense 55U7A
→ £800 ★★★★★

FIFA-branded 4K HDR flatscreen that makes up for a lack of HDR brightness through its image clarity and solid black levels. Strong audio and a clutter-free smart platform sweeten the deal. *HCC #287*



TCL 55DC748
→ £700 ★★★★★

While this budget UHD LCD can look bright, detailed and colour-rich, its whole-frame dimming engine and absence of motion compensation count against it. The JBL soundbar is a little underpowered. *HCC #289*



Sony KD-55XF8505
→ £1,100 ★★★★★

This mid-tier edge-lit Sony set has its strengths, particularly its onboard audio and bright room/bright content playback. But a limited contrast means it never feels overly cinematic. *HCC #287*



Hitachi 75HL16T64U
→ £1,350 ★★★★★

This 75in megascreen offers a lot of 4K image for not a lot of money. Predictably, picture quality can't match that of big-brand rivals – but the TV holds appeal if you're mainly after an SDR display. *HCC #285*

TOP 15 Speaker systems

01


Bowers & Wilkins 700 Series 5.1

→ £3,800 ★★★★★

This array finds the larger models in the 700 Series proving their mettle with formidable power and precision, an expressive mid-band and detailed highs. Excellent. *HCC #285*

TOP 5 On-demand


Bird Box [Netflix]

Sandra Bullock closes her eyes and hopes for the best in this well-constructed high-concept thriller. *Bird Box* is fast-paced and atmospheric, and has a 5.1/ Atmos soundmix that skilfully heightens the tension. *HCC #295*

★★★★★


Outlander: Season Four [Amazon Prime]

The historical time-travel romp moves its action Stateside for another 13 episodes of steamy romance and deft dramatic plotting, all told with convincing period detail. *HCC #294*

★★★★★


Titans [Netflix]

The juvenile superheroes (including Dick Grayson/Robin) get a gritty makeover in this 11-episode DC Universe series that plays in 1080p. Superb 5.1 soundmixes will have you cranking your AVR. *HCC #296*

★★★★★


The Umbrella Academy [Netflix]

A delicious mix of weirdness and invention, this comic book adaptation is a change of pace from the usual Marvel/DC shenanigans. Excellent 4K HDR presentation. *HCC #297*

★★★★★


Triple Frontier [Netflix]

Oscar Isaac and Ben Affleck headline this tense and intentionally grim big-budget action thriller from the writer of *Zero Dark Thirty* and *The Hurt Locker*. Streams in 4K HDR/ Atmos. *HCC #298*

★★★★★

02


M&K Sound IW150 5.1 → £8,550 ★★★★★

The in-wall IW150 speakers offer the transparency and detail of a professional studio monitor in an enclosure that can vanish. This array adds driver-matched on-wall tripole surrounds and M&K's fearless X12 sub. The result is outstanding. *HCC #289*

03


Wharfedale DX-2 → £450 ★★★★★

The asking price of this 5.1 system will tell you it doesn't offer the last word in surround sound fidelity, but Wharfedale's package is compact, well made and faultlessly delivers on its home-cinema-on-a-budget promise. *HCC #283*

04


B&W 600 Series 5.1

→ £1,850 ★★★★★

Continuum drivers replace Kevlar in B&W's entry-level speaker range, delivering a sound that's precise, transparent and highly entertaining. *HCC #295*

05


KEF Q Series 5.1.2

→ £3,300 ★★★★★

KEF's revamped Q Series now offers Atmos modules for an up-to-the-minute sonic experience. Big, bold-looking speakers. Robust, immersive audio. *HCC #280*

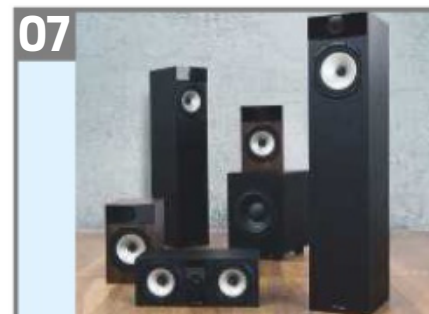
06


Q Acoustics 3010i 5.1

→ £900 ★★★★★

Smaller in stature (and scale) than the 3050i pack, but easier to accommodate. A brilliant performer for the price – balanced, detailed and musical. *HCC #296*

07


Fyne Audio F300 5.1

→ £1,000 ★★★★★

Start-up Scot brand hits the ground running with a floorstanding pack of great value. Plenty of LF heft, detail delivery and soundstage scale. *HCC #297*

08


Elipson Prestige Facet 7.2.4

→ £3,500 ★★★★★

13 cabinets come together to create a great-value and immersive Dolby Atmos array. Rich in fidelity and neutrality; modern styling is another plus point. *HCC #291*

09


Q Acoustics 3050i

→ £1,350 ★★★★★

This update on the previous 3000 series makes subtle performance and styling improvements. The result is an excellent, well-priced, stylish package. *HCC #287*

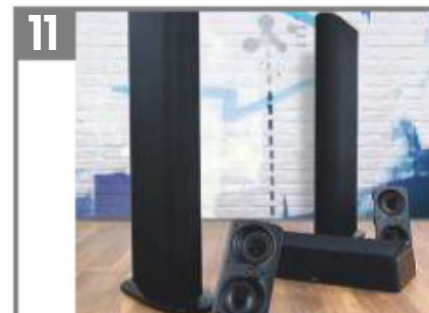
10


Focal Aria 926 5.1

→ £4,500 ★★★★★

Multichannel system mixing floorstanders with bipole surrounds. Superb bass handling and a large, spacious, detail-packed soundfield. *HCC #299*

11


GoldenEar Triton Two+ 5.2

→ £6,000 ★★★★★

Floorstanders with in-built active subwoofers provide tight, dynamic bass and simplify installation, while ribbon tweeters ensure a sweet top-end. *HCC #297*

12


Monitor Audio MASS 5.1

→ £600 ★★★★★

Second-gen redesign of MA's sub/sat system refines the styling and colour options, while retaining the compact dimensions and all-round sound quality. *HCC #298*

13


Klipsch Reference 5.1.2

→ £2,000 ★★★★★

Not the sleekest-looking speakers but Klipsch's array sounds big, bold and cohesive and is easy to drive. Solid subwoofer, too. *HCC #293*

14


Jamo S Series 5.1.2

→ £1,120 ★★★★★

An affordable package with drop-dead gorgeous styling, neat Atmos module integration and involving sonics – but the 8in sub isn't a beast. *HCC #290*

15


Focal Sib Evo Dolby Atmos 5.1.2

→ £1,200 ★★★★★

Enjoyable-sounding and well-priced sub/sat system with Atmos upfiring in front L/R enclosures. Not the smallest 'satellite' speakers around. *HCC #276*

TOP 10 Projectors

01



Sony VPL-VW570ES → £8,000 ★★★★★

This native 4K projector offers a top-flight UHD performance, and adds a dynamic iris and boosted luminance over the step-down 270ES. Still not the brightest model around, but in a dedicated cinema it shines. HCC #295

02



Optoma UHD51 → £1,500 ★★★★★

Optoma's mid-priced 4K DLP model adds 3D playback (at 1080p) to its home cinema repertoire, making it an obvious upgrade for stereoscopy fans. Sharp, colour-rich and dynamic visuals. HCC #287

03



JVC DLA-N7B

→ £8,500 ★★★★★

JVC revamps its home cinema projector line with native 4K optics, new HDR tone mapping skills and revised styling. Quiet in operation and an excellent 4K/HD/3D performer. HCC #298

04



SIM2 Nero 4S

→ £30,000 ★★★★★

High-price PJ for high-end largescreen installs. Class-leading brightness and sharpness results in exemplary 4K HDR projection. Precise setup controls and wide-ranging calibration tools. HCC #296

05



NEW ENTRY

BenQ W2700

→ £1,500 ★★★★★

Keenly priced single-chip 4K DLP projector with wide colour mode and impressive HDR tone mapping. Excellent clarity and living room-friendly styling. A bit of a noisy runner though. HCC #299

06



Sony VPL-VW270ES

→ £5,000 ★★★★★

Sony has refined the performance of its entry-level 4K PJ, improving contrast and HDR delivery, ensuring cinematic thrills. Bonus features include motorised controls and 3D playback. HCC #293

07



Epson EH-TW7400

→ £2,200 ★★★★★

HLG playback is missing from the spec sheet but otherwise this 4K upscaling LCD PJ hits all the right notes. Setup tools include lens memory presets; images are bright, colourful and contrast-rich. HCC #293

08



BenQ TK800

→ £1,200 ★★★★★

A lot of enjoyable performance crammed into a compact package. Offers 4K HDR playback, plus 3D, with only a limited black level and occasionally pushed colours counting against. HCC #288

09



Sony VPL-VW870ES

→ £25,000 ★★★★★

Native 4K beamer with laser light source aimed at largescreen theatres. Superb images from both SDR and HDR sources (plus 3D support), but there are strong rivals both above and below the price. HCC #297

10



Acer VL7860

→ £3,500 ★★★★★

Laser 4K DLP projector that misses out on the contrast performance of some models, but undercuts them in terms of pricing. Use the Silent mode for whisper-quiet operation. HCC #284

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TOP 10 Blu-ray players

01


Pioneer UDP-LX800 → £2,200 ★★★★★

A phenomenal universal disc spinner, which adds audiophile-grade music playback to its 4K BD talents. Includes Dolby Vision support, with HDR10+ promised via future firmware. Build quality is staggering. *HCC #293*

02


Panasonic DP-UB9000 → £850 ★★★★★

Supporting both HDR10+ and Dolby Vision, and incorporating useful image adjustments, this premium player is at the leading edge of UHD BD playback. The astonishing construction and provision of VOD apps heighten its appeal. *HCC #292*

03


Pioneer UDP-LX500
→ £1,000 ★★★★★

Lacks the audiophile features (including XLR output) of the UDP-LX800 but still sounds sublime with CD and hi-res audio. Dolby Vision playback, with HDR10+ due via firmware. No VOD apps. *HCC #296*

04


Sony UBP-X700
→ £250 ★★★★★

A compact player updated to Dolby Vision support, the UBP-X700 has a nondescript design, no analogue outs and a stubby remote. But it plays great, and offers SACD support. *HCC #284*

05


Panasonic DP-UB420
→ £250 ★★★★★

Hi-res file support and HDR10+ compatibility make up for this deck's lightweight build and basic streaming app provision. Plenty of user tweaks on offer and a tempting price. *HCC #291*

06


Panasonic DP-UB820
→ £400 ★★★★★

Panasonic's mid-ranger delivers on both the HDR10+ and DV fronts, and introduces multichannel analogue outputs. As with the UB420, the VOD portal could do with a style makeover. *HCC #295*

07


Sony UBP-X800
→ £270 ★★★★★

Sony embraces UHD Blu-ray with a full-width, sturdy design that'll also spin DVD-A and SACD platters. A great all-rounder, but no current Dolby Vision support or word on an update. *HCC #274*

08


Cambridge Audio CXUHD
→ £800 ★★★★★

The lack of analogue outputs is a surprise considering CA's heritage, but this universal (and DV-capable) deck sounds sweet over its digital outs. As with Oppo's UDP-203, a MediaTek SoC is used. *HCC #279*

09


Panasonic DMP-UB300
→ £130 ★★★★★

Great 4K imagery from this bargain 2017-era deck, but you might prefer to up your budget – no split HDMI, optical/coaxial or Wi-Fi connections here. Half-size design for an easy install. *HCC #272*

10


Xbox One X
→ £400 ★★★★★

Microsoft's superior console dazzles with its native 4K HDR gaming chops – and doubles as a UHD disc player. If you're short of shelf space and like mixing movies with joypad fun, it's a decent option. *HCC #280*

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Photo courtesy of Gary J.Fernandez

TOP 10 AV Receivers/AV Processors

01



Denon AVR-X4500H → £1,500 ★★★★★

Denon's top-tier nine-channel AVR is due an IMAX Enhanced update shortly, topping off an already extensive, user-friendly feature set. Movie playback is dynamic and detailed, and two-channel music sounds sweet too. Superb. *HCC #293*

02



Arcam AVR850 → £4,500 ★★★★★

High-end seven-channel AVR marrying Class G amplification and Atmos support with talented Dirac Live Room EQ for an excellent performance. Lacks a few feature frills, but 11-channel pre-outs allow full-fat setups. *HCC #257*

03



Denon AVC-X8500H → £3,300 ★★★★★

For those want to go even bigger with their Atmos/DTS:X system, this flagship provides 13 channels of power. Setup can be complex, and there's no FM tuner, but otherwise this is first-class. *HCC #285*

04



Yamaha CX-A5200 → £2,600 ★★★★★

11-channel processor with MusicCast integration, XLR hookup and a trio of HDMI outs. Atmos and DTS:X support is bolstered by impressive Surround:AI DSP. Flexible and enjoyable. *HCC #292*

05



Marantz AV8805 → £3,600 ★★★★★

The most affordable 13-channel processor around, the AV8805 combines lean looks, setup flexibility and a musical, detailed sound performance. Uses Audyssey MultEQ XT32 calibration. *HCC #288*

06



Marantz NR1609 → £650 ★★★★★

AirPlay 2 and a phono stage input for vinyl junkies are among the new specs of Marantz's 7-channel slimline model. An assured performer with film and music; great usability and styling. *HCC #295*

07



NAD Masters Series M17 V2 → £5,500 ★★★★★

Dirac Live replaces Audyssey EQ in this revamped high-end processor; 4K HDR passthrough, Atmos and DTS:X decoding, and BluOS music streaming also join the party. *HCC #293*

08



Pioneer VSX-933 → £470 ★★★★★

An affordable seven-channel AVR where copious music streaming options are joined by a punchy, upbeat home cinema performance. Improved remote and menus, but only one HDMI output. *HCC #292*

09



IOTAVX AVXP1 → £1,050 ★★★★★

Brit brand power amplifier with plenty of Class AB grunt (rated at 7 x 110W into 8 ohms) and a rugged build quality – one to audition if your cinema setup is in need of more channels. *HCC #293*

10



Yamaha RX-A3080 → £2,000 ★★★★★

Yamaha's flagship receiver is still 'only' a nine-channel model while rivals add more power. But this is feature-packed and a dynamic, dramatic performer. DSP modes add appeal. *HCC #298*

TOP 5 Bonus features



Dragonwyck (alternate presentation)

Use your player's 'Angle' button to switch between two different encodes of this 1946 Vincent Price romp – an older, more filmic HD master, and a cleaner-looking 4K restoration. *HCC #298*

★★★★★



Bringing Bumblebee to the Big Screen

A solid 50-minute effort covering the *Transformers* film's genesis, casting, 1980s production design and more. Split into five parts with no 'Play All' option, which is annoying. *HCC #299*

★★★★★



Howard: A New Cult Hero

Found on 101 Films' recent *Howard the Duck* BD, BFI Flipside co-creator Vic Pratt explores the comic book origins of the quackers character and his troubled journey to the bigscreen. *HCC #299*

★★★★★



Widows Unmasked: A Chicago Story

How does a 1980s ITV drama become a 2019 Hollywood film directed by Oscar-winner Steve McQueen? This detailed 50-minute *Making of...* doc has the answers. *HCC #297*

★★★★★



Learned Behavior: Special Features at Work

Fascinating 60-min roundtable chat that crops up on the *Kin* Blu-ray, covering the concept of extra features themselves. *Kin*'s co-directors are joined by Kevin Smith and others. *HCC #296*

★★★★★

TOP 10 Subwoofers



REL No.25 → £6,500 ★★★★★
REL celebrates its 25th anniversary in style with this 15in/1,000W premium concoction that exhibits exhilarating speed and nuance down to serious depths. Big, but beautiful. HCC #271



Bowers & Wilkins DB1D
→ £3,750 ★★★★★
This sequel to the DB1 moves EQ to an app and changes driver/amp design. Beautifully controlled performance with depth and detail. Gorgeous bodywork. HCC #277



SVS SB16-Ultra
→ £2,500 ★★★★★
A 16in driver and 1,500W amp combine to give SVS's flagship sealed sub real appeal. Goes low but remains tight and fast. App-assisted EQ and operation. HCC #270



Fyne Audio F3-12
→ £600 ★★★★★
12in driver in a ported enclosure at a great price. Basic setup and styling, but it maintains control and nuance while dropping deep. HCC #297



SVS SB-3000
→ £1,275 ★★★★★
A new 13in driver and 800W amp combi is added to SVS's app-based EQ/control. The result is an excellent value sealed sub that hits deep and hard. HCC #298



NEW ENTRY

Bowers & Wilkins DB3D
→ £1,950 ★★★★★
Twin 8in drivers (rather than the 12in units on the DB1D) result in a compact bass-maker that still dazzles with its control and performance purity. HCC #299



REL HT/1508 Predator
→ £1,600 ★★★★★
The flagship of REL's Serie HT lineup uses a 15in woofer and claimed 800W power plant to hammer home its home-cinema-centric ethos. Enormous fun. HCC #296



REL HT/1205
→ £700 ★★★★★
A larger (12in) driver and punchier amp than on the HT/1003 increases LFE enjoyment – but still at a bargain price. Lacks a bit of subtlety though. HCC #290



Eclipse TD725SWMK2
→ £5,000 ★★★★★
Eclipse aims for speed and accuracy with this flagship. Dual opposed 10in woofers perform as advertised – bass is astonishingly precise and percussive. HCC #297



GoldenEar SuperSub X
→ £1,450 ★★★★★
Four drivers squeezed into a relatively compact design and given plenty of push from a 1,400W amp. Standout traits are impact and depth. HCC #272

TOP 5 Console games



Red Dead Redemption II
Rockstar Games' years-in-the-making Wild West action/puzzler prequel offers a mammoth open-world gaming experience with excellent attention to detail. Fantastic five-star fun, despite muted visuals. HCC #293
★★★★★



Resident Evil 2
Capcom remakes the legendary horror survival game for current-gen PS and Xbox consoles, retaining the original's charms but tweaking gameplay and delivering a first-rate AV experience. HCC #296
★★★★★



Tom Clancy's The Division 2
Duck-and-cover shooter with both solo and multiplayer online modes that's an AV treat (particularly in 4K on Xbox One). Lengthy missions limit casual appeal, though. HCC #298
★★★★★



Super Smash Bros. Ultimate
Boasting a host of characters (including some retro surprises), eight-player multiplayer, smooth 60fps visuals and frantic action, this Nintendo Switch beat-'em up is a hoot. HCC #295
★★★★★



Days Gone
Slotting easily into the upper echelons of PS4 exclusives, Sony's zombie-infused open-world survival/RPG/shoot-em-up benefits from its sheer scale and playability. HCC #299
★★★★★

TOP 10 Accessories

01



Amazon Fire TV Stick 4K → £50 ★★★★★

This upgraded streaming dongle brings 4K HDR (HDR10+; Dolby Vision) and Dolby Atmos to your movie den. Voice control improves search, while a new quad-core processor yields quick load times and stream optimisation. A little stunner. *HCC #295*

02



Bluesound Node 2i → £500 ★★★★★

Hi-res preamp/DAC to hook up to a stereo amp/AVR/active speakers. Integrates with the BluOS app for a wide range of streaming services and home media playback. Compact and an excellent performer. *HCC #296*

03



Devolvo Magic 2 (Home Kit) → £270 ★★★★★

This next-gen networking system (featuring a trio of plug adapters) combines mesh Wi-Fi with the latest (and fastest) Powerline tech. Impressive in use, and a potential boon to streamers. *HCC #298*

04



Amazon Echo Input → £35 ★★★★★

No speaker here – just a disc-shaped Alexa device that links to your receiver via 3.5mm – or Bluetooth – and packs four far-field microphones to detect your voice commands. *HCC #296*

05



Yamaha WX-AD10 → £150 ★★★★★

Simple to use, unobtrusive add-on that brings MusicCast multiroom/hi-res streaming to legacy AV gear via 3.5mm/ phono connections. Not a bad price – only available in grey, unfortunately. *HCC #274*

06



Roku Streaming Stick+ → £70 ★★★★★

If a simple life is your aim, this content-rich, 4K/ HDR-capable stick from the streaming specialist is your friend. Idiot-proof interface and control. Good price. *HCC #282*

07



Edifier S350DB → £250 ★★★★★

Active 2.1 speaker system that's a fine alternative to a soundbar, with good bass integration and effects separation. No HDMI hookup and retro styling, but easy to setup and use. *HCC #291*

08



Apple TV 4K → £180 (32GB) ★★★★★

With Apple's iTunes movie store offering 4K HDR (Dolby Vision) movies at the same price as Full HD downloads, this compact media player (irritating handset aside) is sure to tempt. *HCC #284*

09



Synology DS119j → £95 ★★★★★

Entry-level single-bay NAS (you'll need to add your own HDD) that benefits from Synology's impressive DSM operating system. Quick to get up and running, versatile and smart-looking. *HCC #292*

10



Amazon Echo Sub → £120 ★★★★★

This nicely styled bass bin to supplement Amazon's Echo speakers adds notable punch to streamed music and makes a 2.1 Dot system good value. Lacks subtlety and is overbearing with speech radio, though. *HCC #293*

TOP 5 Blu-ray/DVD boxsets



William Castle at Columbia: Volume One

Four gimmick-filled spine-tinglers (including 1960's part-anaglyph 3D *13 Ghosts*) are joined by a typically brilliant selection of extras in Indicator's deluxe package. *HCC #294*

★★★★★



The Ring Collection

Ring, *Ring 2* and *Ring 0* – plus the oft-forgotten other sequel *Rasen* (aka *Spiral*) – get a Blu-ray boxset that will appeal to J-Horror fans. *Ring*'s new restoration is streets ahead of previous discs. *HCC #297*

★★★★★



Dr Who: The Collection – Season 19

The BBC's BD outing for Peter Davison's debut Time Lord season benefits from the show's move (in parts) from video to 16mm film capture. A TARDIS full of extras, too. *HCC #295*

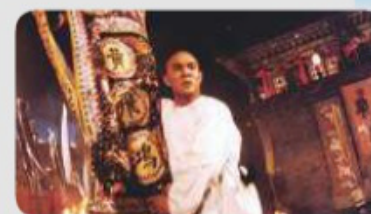
★★★★★



Batman: The Complete Animated Series

All 109 episodes of Fox's groundbreaking 'toon have been meticulously restored for this BD boxset. Among the copious extras is a new 98-minute *Making of...* doc. *HCC #293*

★★★★★



Once Upon a Time in China Trilogy

Jet Li stars (as folk hero Wong Fei-Hung) in this trio of 1990s martial arts flicks, bundled here with fourth movie *...in America and China*. Extras include a trio of commentary tracks. *HCC #295*

★★★★★

TOP 10 Soundbars & Soundbases



01 Samsung HW-N950 → £1,500 ★★★★★

The latest and greatest soundbar system to arrive from Samsung's US-based Audio Lab, the HDMI-equipped N950 crafts a dynamic, detailed and immersive 7.1.4 Atmos/DTS:X soundfield without cluttering your room. *HCC #290*



02 Canton DM55 → £320 ★★★★★

Canton's smallest soundbase still delivers big sonic thrills. Twin woofers underpin clean and crisp mids and highs, and build quality is first-rate. Doddle to use. Bluetooth built-in. *HCC #260*



03 Yamaha YSP-5600SW → £1,900 ★★★★★

With its 46 drivers (including upfiring) this premium 'bar delivers precisely steered and immersive audio, even of the Atmos variety. Potent wireless sub and 4K-capable HDMI switching sweeten the high-end deal. *HCC #254*



04 Denon HEOS Bar → £570 ★★★★★

Multiroom-ready and app-controllable, this premium single-enclosure model offers powerful, detailed and warm sonics in spades. Can be expanded into a 5.1 system with extra HEOS hardware. *HCC #287*



05 Q Acoustics M3 → £300 ★★★★★

A 4in x 6in woofer is tucked away in the M3's eye-catching angular chassis, ensuring this well-priced soundbar has a full-range performance. Simple to use. Bluetooth streaming. *HCC #271*



06 Harman Kardon Enchant 800 → £620 ★★★★★

The baby 'bar in the Enchant range lacks secondary HDMI inputs but presents a well-organised soundstage with effects localisation and dynamic heft. Chromecast is integrated, and the design is gorgeous. *HCC #298*



07 JBL Bar Studio → £150 ★★★★★

No subwoofer here, just a fairly compact stereo 'bar that offers a useful soundstage-widening 'Surround' mode, HDMI ARC connectivity, and a decent performance for the price. *HCC #284*



08 Sony HT-ZF9 → £650 ★★★★★

This 3.1-channel soundbar handles Dolby Atmos streams and promises enveloping sonics via DSP trickery. The result isn't noticeable overhead audio, but a wide, high and exciting performance. *HCC #289*



09 Q Acoustics M2 → £300 ★★★★★

Easily accommodated in/on AV furniture, and packing HDMI ARC for a simple hookup, this BMR-driver/built-in woofer soundbase impresses with its energetic delivery and price. *HCC #279*



10 Wharfedale Vista 200S → £150 ★★★★★

HDMI ARC makes this budget soundbar/sub easy to install, and its audio presentation delivers good stereo imaging and rich bass. Better with movies than music, and not the grandest of soundstages. *HCC #295*

TOP 5 Back-catalogue Blu-rays



Wheels on Meals

Genre legends Jackie Chan, Yuen Biao and Sammo Hung bring the martial arts mayhem to this 1984 action comedy. Eureka Entertainment's BD looks superb, and includes interviews and outtakes. *HCC #298*

★★★★★



Pet Sematary [Ultra HD Blu-ray]

The 1989 adaptation of Stephen King's horror novel receives a 4K outing while a 2019 version plays at cinemas. A new restoration yields a superior, filmic image. *HCC #298*

★★★★★



Alien: 40th Anniversary Edition [UHD Blu-ray]

This 1979 sci-fi looks sublime in 4K HDR (including HDR10+), with notably improved shadow detailing and colour vibrancy. Only a few extras included, however. *HCC #299*

★★★★★



Howard the Duck: Limited Edition

An overdue BD release for the much-maligned George Lucas-produced 1986 comic book adaptation. Excellent extra features (including a booklet) and DTS-HD 5.1 audio. *HCC #299*

★★★★★



Detour

An extensive 4K restoration (detailed in one of the disc's extras) yields a gob-smackingly gorgeous 1080p image on this Criterion Collection release. The movie itself is a low-budget 1945 film noir classic. *HCC #297*

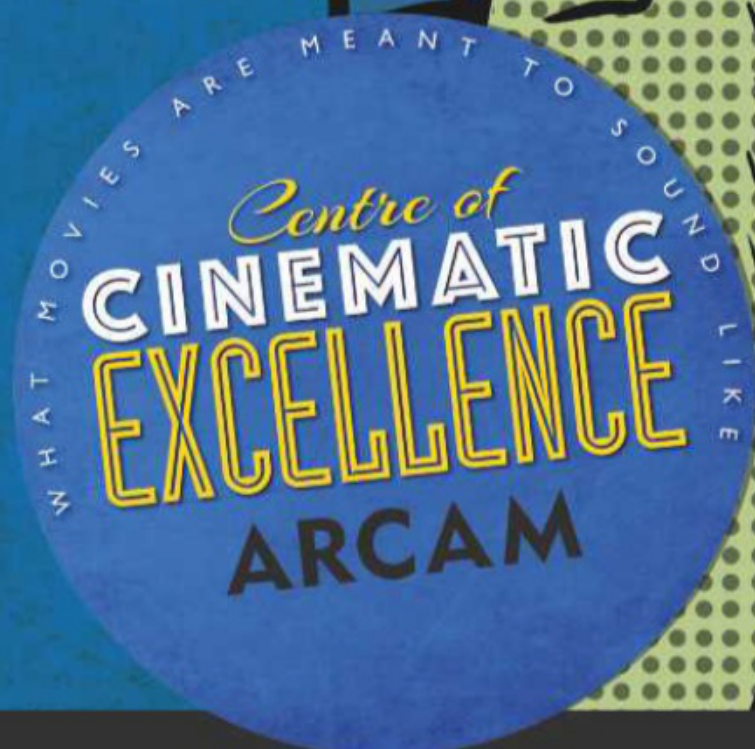
★★★★★

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TOP 5 PVRs



Virgin Media TiVo, £subscription

This triple-tuner PVR offers recording flexibility, useful features – you can undelete deleted shows! – and smart TiVo functionality. If you're in a cable area, consider it

★★★★★



Sky Q, £subscription

Sky's new top-tier product offering dazzles with its image-rich user interface, wireless multiroom skills and recording flexibility delivered by the PVR's 12 tuners. Now supports 4K content

★★★★★



Humax FVP-5000T

Revamped menus, faster operation and tweaks to its triple-tuner engine make this the most advanced Freeview Play PVR around – and it doubles admirably as a DLNA player/media jukebox. 500GB/1TB/2TB

★★★★★



Humax DTR-T4000, £subscription

This YouView-based PVR is required to get BT Sport's new Ultra HD channel – available to those with BT fast fibre and a BT TV sub. Easy to use and with 1TB of storage

★★★★★



Manhattan T2-R, £120

The 500GB HDD and twin-tuner spec of this Freeview HD PVR is basic, but Manhattan's new hardware design, user interface (and the price tag) are appealing. Easy to use.

★★★★★

TOP 5 Headphones



JBL Tune600BTNC, £85

A commendable budget option from JBL, with closed-back, comfortable ear-cups, reasonably effective noise-cancelling, Bluetooth hookup, and a presentation with a good sense of scale and impact

★★★★★



Nuraphones, £350

Unusual over-ear/in-ear hybrid cans that measure the acoustic response of your inner ear to fine-tune performance. It's a highly impressive trick, but the design can make these a bit uncomfortable to wear

★★★★★



NEW ENTRY

Audio Technica ATH-Mx50BT, £180

Cable-free Bluetooth update of a wired design, with 45mm drivers and lengthy battery life (claimed to hit 40 hours). Sturdy and comfortable, and a great sound for the money

★★★★★



Bowers & Wilkins PX, £330

B&W adds noise-cancelling to the general spec of its previous P7 wireless cans, a welcome update for those seeking uninterrupted listening. Offers a neutral, balanced sound suited to both movies and music

★★★★★



Sony WH-1000XM3, £330

Third-gen noise-cancelling wired/wireless 'phones are deliciously comfortable and deliver an intimate performance with strong spatial imaging and nuanced bass. Compatible with LDAC source gear

★★★★★

TOP 5 Wireless speakers



DALI Katch, £330

Portable Bluetooth speaker (aptX-capable) with stereo driver array and gorgeous design. Excellent blend of low-end punch and mid-range/treble detail. Rechargeable battery life is rated at 24 hours

★★★★★



Bluesound Pulse Mini 2i, £500

Hi-res-capable wireless speaker that proves equally impressive when used as a TV soundbar alternative. A largescale stereo sound with mid-range muscle and HF sparkle

★★★★★



Dynaudio Music 7, £875

Top-of-the-range multiroom option from Dynaudio, this sizable speaker creates a full-range, detailed soundstage. Music App offers useful adjustments and EQ modes. Inputs include HDMI (ARC)

★★★★★



NEW ENTRY

Edifier S3000PRO, £580

Wireless (Bluetooth 5.0) active stereo pair employing ribbon tweeters and 6.5in midbass drivers for a performance that excels across the frequency range. Optical input allows TV hookup

★★★★★



Libratone Zipp 2, £280

Well-priced do-it-all portable speaker adds voice interaction, Wi-Fi streaming, Spotify Connect, 3.5mm hookup and auto Room EQ to its Bluetooth spec. Solid sound quality, albeit monophonic

★★★★★

HOME CINEMA

Choice

→ IN THE NEXT ISSUE

Bat's entertainment Tim Burton classic hits 4K
Focal Astral Audio brand aims high with Dirac EQ
16-channel AV processor
Demo delights Put your AV system to the test with these reference Blu-rays

→ REVIEWS

Monitor Audio Gold 5.1 speaker pack Epson EH-TW9400 4K projector **DALI Katch One** soundbar
Samsung Q85R 4K HDR TV **JBL Bar 5.1** soundbar
PLUS News, software, opinion, comps and more

CONTENTS SUBJECT TO CHANGE – BUT ONLY FOR THE BETTER

ISSUE
 #301 ON SALE
 July 11



AV Avenger

Thanks to Virgin and BT, live broadcast HDR is now a reality – but **Steve May** believes there's still a lot of work to be done behind the scenes

WE'VE WAITED AN age, but broadcast HDR is finally here!

Virgin Media became the first UK TV provider to broadcast live sports in 4K HDR, with Eurosport's coverage of the French Open at Roland-Garros on its V6 set-top box. The HLG transmission was available via the red button Eurosport HD channel, as well as the Virgin TV Ultra HD linear channel. Rather disappointingly the results didn't look that great, being dull and flat (the SDR HD grade actually fared better), but at least it's a start.

Closer to home, BT Sport wasn't far behind. However, BT HDR wasn't available via any set-top box. Instead it landed via the BT Sport app. And naturally, there was a cost involved. A subscription will set you back £5 per month.

BT's service made its debut with the UEFA Champions League and UEFA Europa League finals. You could have watched on a smart device via the app, or through an Xbox One S/X, (recent) Samsung TV, Apple TV 4K box or Chromecast Ultra.

And there's more to come. Sky is known to be testing HDR on its Sky Q box behind closed doors, and it's inconceivable that BT's own 4K YouView receiver won't offer HDR soon, to rival Virgin's V6 proposition.

Debugging the rugger

BT has been fast-tracking new production technology in order to make live sports coverage in HDR a reality. Its first test was actually the European Rugby Challenge Cup Final, at St James' Park. While never broadcast publicly, it allowed the company's R&D team to debug their HDR workflow. Clearly all went well, as BT Sport is planning upwards of 70 more live events in HDR this year.

The future of live HDR hinges on a single production workflow which supports both HD SDR

(standard dynamic range) coverage and 4K HDR. This transpires to be a good deal more complicated than might first appear to be the case.

BBC Sport trialled a revolutionary unified approach with its coverage of the FA Cup Final. Previously, live UHD trials required separate production for HD SDR and 4K HDR, an expensive indulgence when it comes to outside broadcasts.

For the football showpiece, BBC Sport derived 4K HDR from a master feed, which found its way to the BBC iPlayer, and HD SDR for BBC One. Just to complicate things, there was also a 4K SDR stream for the BT Sport channel.

The trial was deemed a success, and the BBC R&D Broadcast & Connected Systems division now believes it has a one-size-fits-all solution. I'm pleased to report I had no issues with overall brightness when it came to watching the BT Sport channel feed. Indeed, image quality was excellent.

UHD cameras typically have both an HDR and SDR output, traditionally treated separately – a situation the Beeb decided was unsustainable.

The race was on to produce an HD SDR output from a 4K HDR master signal.

Of course, there's more to it than that. Live football coverage involves multiple cameras and acquisition formats. Those super slo-mo cameras behind the goals are all SDR and work within a conventional REC.709 colour space. The challenge is to mix their output with that from the main HDR cams, without creating brightness or colour discrepancies. From what we've seen so far, this is easier said than done. I suspect broadcasters are realising that HLG HDR is a lot harder to make work in the real world, than just pumping out the resolution bump offered by 4K ■

Have you watched any of the recent live 4K HDR broadcasts? Let us know: email letters@homecinemachoice.com

Steve May is worried that keeping up with live 4K HDR sport will mean he has less time to watch esoteric anime series on Netflix



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